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# Swiss Catalogue

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of

# Learning Objectives

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for

# Undergraduate Medical Training

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Under a Mandate of the  
Joint Commission of the Swiss Medical Schools

# **Swiss Catalogue of Learning Objectives for Undergraduate Medical Training**

H. Bürgi, Ch. Bader, R. Bloch, F. Bosman, B. Horn, V. Im Hof, P. Keel,  
G. A. Spinass with assistance of C. Glauser

Under a Mandate of the Joint Commission of the Swiss Medical  
Schools

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# Table of Content

<b>TABLE OF CONTENT</b> .....	<b>3</b>
<b>PREFACE</b> .....	<b>5</b>
<b>1. INTRODUCTION</b> .....	<b>6</b>
1.1 Background .....	6
1.2 The “Swiss Catalogue of Learning Objectives” Project .....	6
1.2.1 Mandate to create a Swiss catalogue .....	6
1.2.2 Composition and mode of operation of the Working Group .....	7
1.2.3 Review of legislation .....	7
1.2.4 Scope of the Catalogue and general level of competence to be achieved .....	8
1.2.5 Review of existing catalogues and selection of a model catalogue .....	8
1.2.6 Specialist panels for discipline-related objectives .....	9
1.2.7 Choice of language .....	9
1.2.8 Consensual implementation of the Catalogue .....	9
1.2.9 Copyright .....	10
1.3 Structure of the Catalogue .....	10
1.4 Concluding remarks .....	11
<b>2. SPECIALIST PANELS FOR DISCIPLINE-RELATED OBJECTIVES</b> .....	<b>12</b>
<b>3. PROFILE OF THE DOCTOR BY THE END OF UNDERGRADUATE MEDICAL EDUCATION</b> .....	<b>16</b>
3.1 Basic objective of undergraduate education: .....	16
3.2 Knowledge, skills and attitudes: .....	16
3.3 Social competence and personality development .....	16
3.4 Specific objectives .....	17
<b>4. GENERAL OBJECTIVES</b> .....	<b>18</b>
4.1 Medical aspects .....	18
4.1.1 Man in somatic, mental and social respect .....	18
4.1.2 Problem recognition and description .....	18
4.1.3 Patient history .....	19
4.1.4 Physical examination .....	19
4.1.5 Initial problem analysis and plan (problem analysis I) .....	19
4.1.6 Additional investigations .....	19
4.1.7 Extended problem analysis and plan (problem analysis II) .....	19
4.1.8 Management plan .....	20
4.1.9 Attending .....	20
4.1.10 Reporting and making records .....	20
4.1.11 Emergencies .....	21
4.1.12 Prevention .....	21
4.2 Scientific aspects .....	21
4.2.1 Principles of scientific research .....	21
4.2.2 Meaning of scientific approach for medical action .....	21
4.2.3 Advancement and maintenance of professional competence .....	22

<b>4.3</b>	<b>Personal aspects.....</b>	<b>22</b>
4.3.1	Doctor-patient relationship .....	22
4.3.2	Personal performance and interaction of work with private life .....	23
<b>4.4</b>	<b>Aspects related to society and the health care system.....</b>	<b>23</b>
4.4.1	Structure and function of health care systems .....	23
4.4.2	Medical ethics .....	24
4.4.3	Legal regulations .....	24
<b>5.</b>	<b>PROBLEMS AS STARTING POINTS FOR TRAINING .....</b>	<b>25</b>
<b>6.</b>	<b>EXPLANATION OF LEVELS AND LETTERS OF DISCIPLINE-RELATED OBJECTIVES .....</b>	<b>31</b>
6.1	Explanation of the levels and letters of competence for „Clinical Picture“ and „Further Knowledge“.....	31
6.2	Explanation of the levels of competence for “Skills”.....	33
<b>7.</b>	<b>DISCIPLINE RELATED OBJECTIVES .....</b>	<b>34</b>
<b>8.</b>	<b>INDEX.....</b>	<b>140</b>

## PREFACE

The Joint Commission of the Swiss Medical Schools, a body reuniting representatives of all Swiss faculties and of the federal authorities involved in medical teaching and training, has set upon establishing this catalogue for a number of reasons. The last five decades since World War II have seen an unprecedented development of knowledge but also of international scientific exchange. As a result of this, medical diagnosis and treatment has been largely standardised, to a certain extent. Physicians manage a given disease situation along the same guidelines in most industrialised countries, even in different systems of health care. The curriculum and the objectives of undergraduate medical training, however, still vary widely from one country to another. Despite this variation, there is an extensive movement and exchange of medical doctors across national borders. This mobility requires that all countries accurately define the training objectives, i.e. the knowledge and skill levels to be acquired for the medical diploma.

In the same time period the amount of basic and clinical knowledge and the number of available diagnostic and therapeutic techniques have increased exponentially. While during the last century major surgical skills were beyond undergraduate training and had to be acquired in postgraduate programs, new "minor" but essential interventional skills have emerged, such as placing a central intravenous line, tracheal intubation or cardiopulmonary resuscitation. Medical educators must carefully select the skills the students must acquire, and decide for each skill when and how it should be taught. The same holds true for knowledge. Consider as an example immunology, a field restricted 50 years ago to serologic diagnostic techniques for infectious disease and to blood group typing. Today, the pathophysiology of immunologic processes has to be known in great detail, and there are numerous clinical pictures related to it. Undergraduate training can impossibly provide all this knowledge to students, not even a fraction of it. Medical educators therefore have no choice but to make a careful selection, and to fix clearly the objectives.

Medical training does not end with graduation from medical school, but is completed by several years of postgraduate training, be it in general medicine or in a specialty. Postgraduate programs ideally should neatly fit upon the graduate program; planners of postgraduate programs therefore must be informed about the levels in skills and knowledge reached by the time of graduation.

Finally, Swiss medical schools have recently engaged into a major revision of the medical curriculum. Paradoxically, this revision was undertaken before common goals had been set. Clearly, this is another good reason to prepare the present catalogue at this moment.

The Working Group in charge of defining the objectives had to take numerous decisions in the course of preparing this catalogue. Along the way, major opinions were submitted to and approved by the Joint Commission of Swiss Medical Schools. The Commission in particular has approved of preparing the catalogue in English, even though this is not one of the official languages in Switzerland. The Commission has also welcomed the Working Group's choice of the Dutch Blueprint as a model and basis of the Swiss catalogue. We express our warmest thanks to the Dutch colleagues for waving the copyright.

Undoubtedly, the catalogue will have its critics. These should be reminded that it is the result of a collaborative effort, involving not only the Working Group, but also more than 100 specialists and generalists in medical practice. In this complex process, the Working Group had to make many difficult choices. The decision was made to revise the catalogue in due course, after it has been in use for a few years.

The Joint Commission of Swiss Medical Schools is glad to offer this catalogue to educators and students in medicine.

Geneva, October 2001

Professor P.M. Suter, MD  
President  
Joint Commission of Swiss Medical  
Schools

# 1. INTRODUCTION

## 1.1 Background

Until recently, no formal learning objectives had been established for medical education in Switzerland. A law enacted over 100 years ago still grants the holder of a Federal Diploma (acquired by passing the Final Federal Examination) the right to independently practice medicine anywhere in Switzerland. This law was supplemented in 1980 and 1985 by ordinances listing some general objectives and a small number of required skills (see section 1.2.3 on legislation below). Over the past ten years, the following developments have highlighted the need to establish concrete and detailed objectives that should be reached by the time undergraduate medical education is completed:

- Since about 1990, all five Swiss medical faculties (Basle, Berne, Geneva, Lausanne and Zurich) as well as the two science faculties offering only the preclinical years (Fribourg and Neuchâtel) have been engaged in a thorough reform of the undergraduate curriculum. However introducing such a curriculum without establishing overall goals is plainly futile.
- In 1999 undergraduate education in the five medical faculties underwent an accreditation by a group of foreign experts. The long-range aim of this review was mutual international recognition of diplomas. The expert panel identified a lack of learning objectives as one of the deficiencies within the Swiss system.
- The Bilateral Treaties between the European Union and Switzerland will establish mutual recognition of university degrees. In anticipation of the ratification of these treaties it became essential for the medical faculties in Switzerland to institute generally shared objectives that are compatible with European Union guidelines.
- In 1999 the Federal Department of the Interior published a preliminary draft of a law on undergraduate education standards for the medical profession. The general goals of undergraduate medical education that this law will contain are already known in detail, and it is assumed that they will not change significantly in the current political review process. It is evident that these general goals must be supplemented by detailed objectives.

## 1.2 The “Swiss Catalogue of Learning Objectives” Project

### 1.2.1 Mandate to create a Swiss catalogue

In light of the above arguments, the Joint Commission of Swiss Medical Schools (SMIFK) discussed how to establish learning objectives for all Swiss faculties engaged in undergraduate teaching. The SMIFK is a committee made up of the faculties concerned with undergraduate training and education in medicine. Members include the deans and vice-deans for undergraduate education at the aforementioned seven faculties, as well as representatives of the Swiss Federal Office of Public Health and various other bodies involved in medical education and certification. On March 22, 2000, the commission decided on the following:

- To establish a working group (henceforth the “Working Group”) with the task of preparing a Swiss Catalogue of Learning Objectives (henceforth the “Catalogue”), which must be met in order to qualify for the Federal Diploma in Medicine.
- The Working Group was to present this catalogue in English within one year.
- The Working Group was to report regularly to a supervisory guidance committee (it turned out that this supervision was best exercised by the SMIFK itself).
- The Working Group was to be financed by the five medical faculties mentioned in the introduction.

## 1.2.2 Composition and mode of operation of the Working Group

The SMIFK composed the Working Group as follows:

Chairman: Prof. (emeritus) H. Bürgi, Solothurn  
Members: Prof. Ch. Bader, Geneva  
Prof. R. Bloch, Berne  
Prof. F. Bosman, Lausanne  
Prof. V. Im Hof, Berne  
PD Dr. P. Keel, Basle  
Prof. G. A. Spinaz, Zurich  
Prof. B. Horn, Interlaken (as representative of the Faculty Offices for General Medicine = FIHAM)

Dr. Claudia Glauser headed the secretariat, which was set up in an office made available by the Institute of Pathophysiology at the University of Berne.

From July 2000 to September 2001 the Working Group met at two- to four-week intervals. Between sessions the chairman- with the help of the assistant and, when necessary, the members- prepared the agenda and documents for the next session and liaised with specialists representing the various disciplines. Step by step, the Working Group reached the decisions outlined in the following sections.

## 1.2.3 Review of legislation

The Working Group agreed that the Catalogue had to comply with Swiss legislation and be compatible with European Union legislation. It therefore undertook a review of existing or pending European and Swiss legislation.

Article 23 of the *European Union Guideline 93/16* states that undergraduate education has to last a minimum of six years. It briefly outlines some general objectives to be reached, such as appropriate knowledge of the scientific basis of medicine, of bodily function in health and disease, as well as appropriate clinical knowledge and skills. Article 31 stipulates that at least two years of postgraduate training are required in order to practice general medicine independently.

In Switzerland, undergraduate medical education is the responsibility of the universities, which are cantonal institutions. University teachers serve as examiners for their specialty. However, throughout the educational curriculum a Central Committee of the Swiss Federal Office of Public Health supervises the examinations; a representative of the Committee is present at every written or oral examination. The *General Ordinance on Examinations for Medical Professionals (19. 11. 1981, SR 811.112.1.)* and the *Ordinance on Examinations of Medical Doctors (19.11.1980, SR 811.112.2)* outline the scope and technicalities of all examinations.

The latter ordinance sets as a general aim of medical education the capacity to practice medicine, in particular general medicine. At the end of undergraduate training a student ought to have knowledge of human bodily structure and function in health and disease and be ready to apply the acquired knowledge and skills to prevention, diagnosis, therapy and rehabilitation. This implies taking on medical responsibility for the health of the individual as well as society and establishing interpersonal relationships with colleagues and other medical personnel. Complying with article 33 of the above ordinance, an *Ordinance on the Examination of Medical Skills (29.5.1985, SR 811.112.24)* added a skills list of a mere 25 items.

The *Swiss Federal Law on the Freedom of Medical Professionals to Practice (19.12.1877, SR 811.11)*, still in force after 124 years, grants holders of the Federal Diploma in Medicine the right to practice medicine independently anywhere in Switzerland. This diploma is acquired by passing the Final Federal Examination after six years of undergraduate education. The definition as to what is required to practice general medicine is thus still very much at the discretion of the examiners, with the exception of the general objectives and the small skills list mentioned above.

Two future developments will affect the current legal framework. First, Switzerland has reached Bilateral Treaties with the European Union. In anticipation of their ratification, Parliament (*BBl 1999 6128*) has amended articles 2 and 11 of the above-mentioned *Swiss Federal Law on Freedom to Practice (SR 811.11)*. Holders of the Federal Diploma in Medicine will, for an additional two-year



period of postgraduate training, only be entitled to practice medicine under the supervision of a holder of a federal postgraduate title (for the moment these titles are issued by the Federation of Swiss Physicians (FMH), but they are expected to become federal). This modification has been approved by Parliament and will come into force with the ratification of the Bilateral Treaties. It will markedly affect the level of competence to be reached by the end of undergraduate training.

Second, in 1999 the Federal Department of the Interior issued a preliminary draft of a law entitled *Federal Law on the University Education in the Medical Professions* (named "Fleiner II" after the chairman of the committee charged with the draft). The law will replace the 124-year-old *Swiss Federal Law on the Freedom to Practice (SR 811. 11)*, including its 1999 modification (BBl 1999.6128). In article 6, the draft of the new law confirms that the Federal Diploma entitles the holder to practice medicine only when supervised by a holder of a federal postgraduate title. In articles 7 to 10 the draft enumerates a fair number of general objectives to be reached by the undergraduate medical education. Article 18 divides the curriculum into a compulsory core and an elective mantle (at least 20%). Article 26 defines the level of competence which students must have achieved by the time of the Final Federal Examination. The article states that the examination must test whether the graduating student has acquired the foundations to enter any one of the postgraduate training programs in a specialty or in general medicine. Students pass the Federal Examination if they can prove that they have acquired the knowledge, skills and aptitudes enumerated in the training objectives, and if they exhibit the necessary attitudes and social competence to practice medicine. Although this new law is still under development, the Working Group assumed that the general objectives of undergraduate medical education formulated in the draft will pass the parliamentary review process without substantial changes. Thus, the group has incorporated the objectives of articles 7 to 10 verbatim into the first part of the Catalogue.

#### **1.2.4 Scope of the Catalogue and general level of competence to be achieved**

Based on the above review of existing and forthcoming legislation, the Working Group defines the level of competence to be reached as follows:

***The Catalogue describes the target competencies for the core curriculum only. The undergraduate core training enables the holder of a Federal Diploma in Medicine to enter any of the existing postgraduate training programs leading to a title in a specialty or in general medicine. The diploma entitles the holder to practice medicine under supervision but not to independent practice. Nonetheless, the graduate can handle vital emergency situations for a short period, until senior assistance arrives.***

Formally, the Catalogue encompasses the specialties covered in the Final Federal Examination, with the exception of pathology, pathophysiology and microbiology. However, the detailed objectives of these fields are by definition included in the relevant "Clinical Pictures" and "Further Knowledge," to which a competence level 2 has been attributed. The Catalogue does not explicitly cover the objectives of basic sciences such as anatomy, biochemistry, physiology. Again, a competence level 2 in "Clinical Pictures" or "Further Knowledge" implies that the graduate knows and applies the pertaining basic science topics. Thus, with the Clinical Picture "Myocardial infarction," the graduate should also comprehend the relevant anatomy, physiology, pathophysiology and pathology.

#### **1.2.5 Review of existing catalogues and selection of a model catalogue**

Since the Catalogue was to be completed within one year, the Working Group sought existing catalogues from other countries which could serve as models. In particular, the Working Group reviewed the Dutch "Blueprint 1994, the Training of Doctors" and the Canadian "Objectives for the Qualifying Examination".

The Working Group decided to use the Dutch catalogue as a foundation. This catalogue uses a simple system of defining knowledge and skill levels. Apart from being easy to read, the general level of competence to be reached to enter any of the postgraduate specialist training programs in The Netherlands is comparable to Switzerland. We have modified the Dutch catalogue in quite a few places but have maintained its basic structure.

Five specialties had already previously established Swiss catalogues of objectives: ophthalmology; gynaecology and obstetrics; surgery; paediatrics; and public health (which includes the epidemiology of infectious diseases, occupational, preventive, social and insurance medicine). The existing catalogues for surgery and for paediatrics were already based on the structure of the Dutch catalogue and were used, with a few modifications, for the Joint Swiss catalogue. The catalogues of the other three specialties were adapted to the new format.

### **1.2.6 Specialist panels for discipline-related objectives**

For each discipline the Working Group contacted one of the departmental chairpersons in one of the five Swiss faculties, asking him or her to set up a panel composed of representatives from all five faculties, supplemented by a specialist in private practice when necessary. The panels were responsible for establishing discipline-related objectives. The composition of the panels is given in a separate paragraph. The Working Group owes great thanks to the members of the panels who accomplished their task within relatively short deadlines, above and beyond clinical and other duties.

A *WEB-Delphi* system was established on the Internet, the goals of which were to:

- Allow experts from all over Switzerland easy access to a set of continuously changing learning objectives in progress.
- Allow the experts to add comments and to propose deletions or changes to individual learning objectives.
- Reduce manual data entry from paper forms.
- Allow access only to selected and appointed experts.

These tasks were achieved over the Internet, using a password-protected Web site. Web pages are generated dynamically, always presenting the newest state of the database by means of Microsoft Active Server Pages. Access to objectives is by categories or alphabetic searches. Web forms allow comments and suggested changes to be entered online. All input is added automatically to the database. Various disciplines used this system to varying degrees. Some provided their contributions as Excel or Word files.

This system lends itself well to the ongoing collection of commentaries and suggested changes as the objectives are being implemented.

### **1.2.7 Choice of language**

The Working Group gladly accepted the suggestion of the Joint Commission of Swiss Medical Schools to prepare the Catalogue in English, in order to reduce the workload. English has replaced Latin as the international lingua franca of medicine; if needed, medical students in Switzerland are offered a course in medical English at the beginning of medical school. The Working Group left the issue open as to whether the Catalogue needs to be translated into the three official languages when it is enacted.

### **1.2.8 Consensual implementation of the Catalogue**

The Catalogue was commissioned by the Joint Commission of Swiss Medical Schools. This is a body representing the faculties of seven universities concerned with undergraduate medical education. Swiss universities are cantonal institutions, but the Federal Department of the Interior—which also supervises all examinations—issues the diplomas for the medical professions. The Catalogue is to be delivered to the Joint Commission of Swiss Medical Schools, which will implement it as a basis for medical education. We recommend that it first be tentatively enacted for two years, after which it could be amended. Also, once executed, it should be insured that the Catalogue is revised at regular intervals. A database format was developed in parallel. This allows a much more flexible use of the catalogue as well as the ability to make amendments while in use, rather than in a periodical “pulsatile” approach.

## 1.2.9 Copyright

Much of the Catalogue is based on the Dutch “Blueprint 1994”. We are extremely grateful to our Dutch colleagues, who have permitted us to use and modify the Blueprint for our purposes. As the Dutch catalogue, the Swiss Catalogue is also protected by copyright. The copyright rests with the Joint Conference of Swiss Medical Faculties (SMIFK)

The Catalogue is accessible in the internet ([www.SMIFK.ch](http://www.SMIFK.ch)). It may be used by other parties provided they cite the source appropriately and pass on the right to use their product in analogy to the GNU/Linux/Open Source Software principle.

## 1.3 Structure of the Catalogue

The Catalogue follows the structure of the Dutch model with substantial textual modifications. It is divided into the following four sections:

- **Profile of the doctor by the end of undergraduate education**  
This chapter defines broad objectives for attitudes, knowledge and skills. It is based in large part on the preliminary draft of the *Federal Law on the University Education in the Medical Professions (“Fleiner II”)*, which has replaced most of the Dutch goals.
- **General objectives**  
This section lists the knowledge, skills and attitudes desirable in order to function as a good doctor. It is limited to aspects that do not pertain to a single discipline only, but which are relevant to most activities in medicine. The Working Group is aware of the fact that the goals have been set high, and that they will only be partially achieved during undergraduate training. Years of maturing and experience will be required to approach these goals.

The section closely follows the Dutch catalogue. Additional ethical objectives were formulated by a representative of the ethics working group of the Swiss Academy of the Medical Sciences and borrowed from the Canadian Catalogue (“Objectives for the Qualifying Examination”).

- **Problems as starting points for training**  
Here, a problem is defined as a complex of complaints, signs and symptoms (e.g. dyspnoea) which may lead a patient to seek medical counsel. The problem-solving goes beyond the classical exercise of establishing a differential diagnosis; it includes therapeutic, social, preventive, and other interventions. Problems were selected if:
  - They occur frequently;
  - Even though the problem is rare, rapid and appropriate intervention may be life-saving.

The Working Group has supplemented the Dutch list with problems from a list belonging to the Institution for General Medicine of the Faculty of Berne (FIAM).

- **Discipline-related objectives**  
The lists are made up of objectives grouped by medical disciplines (surgery, internal medicine, etc). For each discipline the list is divided into the following domains:
  - Clinical pictures (levels 1 or 2)
  - Further knowledge (if appropriate) (levels 1 or 2)
  - Skills (levels 1, 2, 3 or 4)

Some specialties made relatively detailed lists of objectives; others were more selective.

**The Working Group wants to emphasize that the number of objectives is by no means proportional to the amount of knowledge and skill required for a particular discipline. The number of items on the list should not therefore be translated into allotted teaching time.**

In some disciplines the Dutch model was followed closely, in other disciplines the objectives were totally reworked. In compliance with the various current federal ordinances on examinations, the Working Group added three further disciplines to the Dutch list: pharmacotherapy, radiology and forensic medicine. Public Health, as in the Dutch catalogue, includes occupational medicine and in addition it was supplemented by insurance medicine and epidemiology of infectious diseases. Moreover, specialty panels in rheumatology,

geriatrics and infectious disease were asked to provide specific objectives. The Working Group incorporated rheumatology, neurology and geriatrics into internal medicine and infectious disease into various disciplines.

Section 1.2.6 explains the mode by which discipline-related objectives were obtained from the specialty panels via a Web site. The Working Group reviewed every single objective supplied by the specialty panels. If deemed appropriate, it cancelled (or, more rarely, added) specific objectives or adapted the knowledge and skill levels required. The Working Group apologizes that, due to lack of time, specialty panels did not have the opportunity to see the Catalogue after this review process. The specialty panels will have the opportunity to amend the Catalogue during the initial time period of its provisional enactment.

## **1.4 Concluding remarks**

The Working Group was under considerable time pressure to finish the Catalogue. In particular, it regrets that time was too short to let the specialty panels reconsider the Catalogue after the Working Group's editorial review. The Working Group therefore suggests that the Catalogue be put into provisional use for a period of approximately two years and then be revised. This will allow the specialty panels and other concerned parties to suggest appropriate amendments.

## 2. SPECIALIST PANELS FOR DISCIPLINE-RELATED OBJECTIVES

(\* : Physicians in private practice, abbreviations: see end of list)

### ***Dermatology***

Head: Prof. Dr. med. Günter Burg Dermatologische Uniklinik, Zürich  
Members: Prof. Dr. med. Lasse Roger Braaten Inselspital, Bern  
Prof. Dr. med. Alfred Eichmann Städtische Poliklinik, Zürich  
Dr. med. Lars French HUG, Genève  
Prof. Dr. med. Renato Panizzon CHUV, Lausanne  
Prof. Dr. med. Theo Rufli Dermatologische Klinik, Basel

### ***Epidemiology (incorporated into Public Health)***

Members: Dr. med. Eric Chamot IMSP, Genève  
Prof. Dr. med. Patrick Francioli CHUV, Lausanne  
PD Dr. med. Christoph Hatz Tropenmedizinische Poliklinik, Basel  
Dr. med. Kathrin Mühlemann Inst. für Medizinische Mikrobiologie, Bern  
Prof. Dr. med Robert Steffen ISPM, Zürich

### ***Ethics (incorporated into General Objectives)***

Head: Prof. Dr. med. Michel Vallotton HUG, Genève

### ***Forensic Medicine***

Head: Prof. Dr. med. Ulrich Zollinger Rechtsmedizin Universität Bern  
Members: Prof. Dr. med. Walter Bär Rechtsmedizin Universität Zürich  
Prof. Dr. med. Volker Dittmann Rechtsmedizin Universität Basel  
Dr. med.\* Marcus Grossenbacher Ringgenberg  
Prof. Dr. med. Timothy Harding Médecine légale Université de Genève  
Prof. Dr. med. Thomas Krompecher Médecine légale Université de Lausanne

### ***General Practice and Outpatient Management***

Head: Prof. Dr. med.\* Benedikt Horn FIAM, Bern  
Members: Dr. med.\* Daniel Ackermann Lenzburg  
Dr. med.\* Lilli Herzig Epalinges  
Dr. med.\* Rudolf Isler Reigoldswil  
Dr. med.\* Danièle Lefebvre Versoix  
Dr. med. Peter Schläppi IAWF, Bern

### ***Geriatrics (incorporated into Internal Medicine)***

Head: Prof. Dr. med. Andreas Stuck Zieglerspital, Bern  
Members: Dr. med. Christophe Büla CUTR, Epalinges  
Dr. med. Martin Conzelmann Felix-Platter-Spital, Basel  
Dr. med. Daniel Grob Stadtspital Waid, Zürich  
Dr. med. Philippe Huber HUG, Genève  
Dr. med.\* Jörg Wälti Zürich

### ***Gynaecology / Obstetrics***

Head: Prof. Dr. med. Patrick Hohlfeld CHUV, Lausanne  
Members: Prof. Dr. med. Martin Birkhäuser Unversitäts-Frauenklinik, Bern  
Prof. Dr. med. Pierre De Grandi CHUV, Lausanne  
Prof. Dr. med. Urs Haller USZ, Zürich  
Prof. Dr. med. Wolfgang Holzgreve Unversitäts-Frauenklinik, Basel

**Infectiology (incorporated into various disciplines)**

Head: Prof. Dr. med. Daniel Lew HUG, Genève  
Members: Prof. Dr. med. Patrick Francioli CHUV, Lausanne  
Prof. Dr. med. Martin Täuber Mikrobiologie Universität Bern  
Prof. Dr. med. Rainer Weber USZ, Zürich

**Insurance Medicine (incorporated into Public Health)**

Head: Prof. Dr. med. Roger Darioli PMU, Lausanne  
Members: Prof. Dr. med. Fritz Hefti Basel  
Dr. med. Thomas Perneger HUG, Genève  
Dr. med. Erich W. Ramseier Bern  
Dr. med. Rudolf Schütz Zürich

**Internal Medicine**

Head: Prof. Dr. med. Ferenc Follath USZ, Zürich  
Members: Prof. Dr. med. Peter Burckhardt CHUV, Lausanne  
Prof. Dr. med. Ulrich Bürgi Inselspital, Bern  
Prof. Dr. med. Jürg Schifferli KS, Basel  
Prof. Dr. med. Francis Waldvogel HUG, Genève

**Neurology (incorporated into Internal Medicine)**

Head: Prof. Dr. med. Klaus Hess USZ, Zürich  
Members: Prof. Dr. med. Julien Bogousslavsky CHUV, Lausanne  
Prof. Dr. med. Paul-André Despland CHUV, Lausanne  
Prof. Dr. med. Christian Walter Hess Inselspital, Bern  
Prof. Dr. med. Theodor Landis HUG, Genève  
Prof. Dr. med. Andreas Steck KS, Basel  
Dr. med.\* Hans-Rudolf Stöckli Liestal

**Occupational Medicine (incorporated into Public Health)**

Head: Prof. Dr. med. Marcel-André Boillat IST, Lausanne  
Members: Dr. med. Dieter Kissling IFA, Baden  
Dr. med. Martin Kuster Novartis international, Basel  
Dr. med. Yvan Scherrer Faculté de Médecine, Université de Genève  
Dr. med. Rudolf Schütz SUVA, Luzern

**Ophthalmology**

Head: Prof. Dr. med. Fritz Körner Inselspital, Bern  
Members: PD Dr. med. Beatrice Früh Inselspital, Bern  
Dr. med.\* Marc Jost Thun  
Prof. Dr. med. Hedwig Kaiser Universitäts-Augenklinik, Basel

**Otorhinolaryngology**

Head: Prof. Dr. med. Rudolf Häusler Inselspital, Bern  
Members: PD Dr. med. Jean-Philippe Guyot HUG, Genève  
Prof. Dr. med. Rudolf Probst KS, Basel  
Prof. Dr. med. Stephan Schmid USZ, Zürich

**Paediatrics**

Head: Prof. Dr. med. Susanne Suter HUG, Genève  
Members: PD Alain Gervaix HUG, Genève  
Dr. med.\* Pierre Klauser Genève  
Dr. med. Bernard Laubscher Hôpital Pourtalès, Neuchâtel  
Prof. Dr. med. Saadi-Mustapha Mazouni CHUV, Lausanne  
Prof. Dr. med. Pierre-André Michaud CHUV, Lausanne  
Dr. med. Jean-Léopold Micheli CHUV, Lausanne

### **Pharmacotherapy**

Head:	Prof. Dr. med. Peter J. Meier-Abt	USZ, Zürich
Members:	Prof. Dr. med. Jérôme Biollaz	CHUV, Lausanne
	PD Dr. med. Jules Desmeules	HUG, Genève
	Dr. med.* Etzel Gysling	Wil (SG)
	Prof. Dr. med. Stephan Krähenbühl	KS, Basel
	Prof. Dr. med. Bernhard Lauterburg	Inselspital, Bern

### **Psychiatry**

Head:	Prof. Dr. med. Werner Conrad Strik	UPD Waldau, Bern
Members:	Prof. Dr. med. François Borgeat	DUPA, Prilly
	Prof. Dr. med. François Ferrero	HUG, Genève
	Prof. Dr. med. Franz Müller-Spahn	Psych. Uniklinik, Basel
	Prof. Dr. med. Wulf Rössler	USZ, Zürich
	Dr. med. Hanspeter Wengle	Kant. Psych. Klinik, Wil (SG)

### **Radiology and Nuclear Medicine**

Head:	Prof. Dr. med. Borut Marincek	USZ, Zürich
Members:	Prof. Dr. med. Jürg Hodler	Klinik Balgrist, Zürich
	Prof. Dr. med. Pierre Schnyder	CHUV, Lausanne
	Prof. Dr. med. Wolfgang Steinbrich	KS, Basel
	Prof. Dr. med. François Terrier	HUG, Genève
	Prof. Dr. med. Peter Vock	Inselspital, Bern
	Prof. Dr. med. Bischoff-Delaloye Angelika	CHUV, Lausanne

### **Rheumatology (incorporated into Internal Medicine)**

Head:	Prof. Dr. med. Peter Villiger	Inselspital, Bern
Members:	Dr. med. Pius Brühlmann	USZ, Zürich
	Prof. Dr. med. Jean-Charles Gerster	CHUV, Lausanne
	Dr. med. Pierre-André Guerne	HUG, Genève
	PD Dr. med. Paul Hasler	Felix-Platter-Spital, Basel
	Dr. med.* Marc Sinniger	Genève

### **Social and Preventive Medicine (incorporated into Public Health)**

Head:	Prof. Dr. med. Fred Paccaud	IUMSP, Lausanne
Members:	Prof. Dr. med. Ursula Ackermann-Liebrich	ISPM, Basel
	Prof. Dr. med. Felix Gutzwiller	ISPM, Zürich
	Prof. Dr. med. André Rougemont	IMSP, Genève

### **Surgery**

Head:	Prof. Dr. med. Felix Harder	KS, Basel
Members:	Prof. Dr. med. Markus Wolfgang Büchler	Inselspital, Bern
	Prof. Dr. med. Pierre-Alain Clavien	USZ, Zürich
	Prof. Dr. med. Michel Gillet	CHUV, Lausanne
	Prof. Dr. med. Philippe Morel	HUG, Genève

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**Abbreviations:**

CHUV:	Centre Hospitalier Universitaire Vaudois
CUTR:	Centre Universitaire de Traitements et de Réadaptations
DUPA:	Département Universitaire de Psychiatrie Adulte
FIAM:	Fakultäre Instanz für Allgemeine Medizin
HUG:	Hôpitaux Universitaires de Genève
IAWF:	Institut für Aus-, Weiter- und Fortbildung
IFA:	Institut für Arbeitsmedizin
IMSP:	Institute de Médecine Sociale et Préventive
ISPM:	Institut für Sozial- und Präventivmedizin
IST:	Institute de Santé au Travail
IUMSP:	Institute Universitaire de Médecine Sociale et Préventive
KS:	Kantonsspital
PMU:	Policlinique Médicale Universitaire
SUVA:	Schweizerische Unfallversicherungsanstalt
UPD:	Universitäre Psychiatrische Dienste
USZ:	Universitätsspital Zürich

\* : Physicians in private practice



### **3. PROFILE OF THE DOCTOR BY THE END OF UNDERGRADUATE MEDICAL EDUCATION**

It is the task of each faculty to assure the teaching and training in these general objectives.

#### **3.1 Basic objective of undergraduate education:**

Undergraduate training enables the holder of the Federal Diploma in Medicine to enter any of the existing postgraduate training programs leading to a title in a specialty or in general medicine. The diploma entitles the holder to practice medicine under supervision. It does not entitle the holder to independent practice of medicine. Nonetheless, he can handle vital emergency situations for a short period, until help by a senior arrives.

Under supervision graduates are able to:

- prevent, recognise and cure disease, as well as promote health
- provide their patients with comprehensive and individual care of high quality
- make medical decisions, taking into account scientific, ethical and economic aspects
- communicate properly and to the point with patients and other concerned persons
- accept responsibility in the health care system and concerning specific professional aspects in the community
- take on organisational and managerial tasks pertaining to their professional activity

#### **3.2 Knowledge, skills and attitudes:**

Graduates:

- have the scientific basis necessary for preventive, diagnostic and therapeutic measures
- can professionally and empathically communicate
- understand the principles and methods of scientific investigation
- recognise health-promoting factors and appreciate their value in their work
- are capable to care for patients in collaboration with other health care professionals
- can analyse and critically appraise medical information and research, and are capable of applying these in their professional activity
- learn from other disciplines and know how to get continuing education
- are acquainted with the legal basis of the health care system and are capable of transposing this knowledge into their professional practice
- can judge the efficacy of the medical services they render and can act accordingly
- have an understanding of the interrelationships between the general economy and the health care system and its various structures for providing health care

#### **3.3 Social competence and personality development**

Graduates:

- know and respect the limits of medical activity and of their personal assets and weaknesses
- understand the ethical dimensions of their professional activity, and take on responsibility towards the individual, the society and the environment
- are aware of the needs of information at an adequate level of complexity
-

### **3.4 Specific objectives**

Graduates:

- respect the dignity and autonomy of human beings, are familiar with the foundations of ethics and with ethical problems in medicine
- know the basic structures and mechanisms of function of the human body in all phases of its development and in its whole spectrum from health to disease
- master diagnosis and therapy of those diseases and illnesses which are frequent or which require urgent intervention
- can summarise and communicate the findings
- can analyse health problems comprehensively
- understand patients as individual personalities and in their social context
- promote human health by counselling and by appropriate measures

## 4. GENERAL OBJECTIVES

This chapter lists the knowledge items, skills and attitudes desirable to function as a good doctor. It limits itself to aspects that pertain to most activities in medicine. More specific goals are mentioned in the discipline-related objectives. One should take into account that these objectives concerns a doctor who has just passed his medical final examinations. He will need further training for future practice.

It is the task of each faculty to assure the teaching and training in these general objectives.

The chapter centers around four topics:

- *Medical aspects*
- *Scientific aspects*
- *Personal aspects*
- *Aspects related to society and the health care system*

### 4.1 Medical aspects

The following classification has been chosen:

- Man in somatic, mental and social respect
- Problem recognition and description
- Patient history
- Physical examination
- Initial problem analysis and plan (problem analysis I)
- Additional investigation
- Extended problem analysis and plan (problem analysis II)
- Management plan
- Attending
- Reporting and making records
- Emergencies
- Prevention

This list artificially separates processes which are simultaneous or cyclic and repetitive.

#### 4.1.1 Man in somatic, mental and social respect

The graduate has:

- knowledge of the somatic, mental and social structure and functions of men and women
- knowledge of the normal phases of life and of possible disturbing factors
- insight in human behaviour in various circumstances, especially in problem situations and requests for help

#### 4.1.2 Problem recognition and description

The graduate:

- watches and listens to the patient and pays attention to the importance the patient attributes to the complaints and to the wishes and expectations he expresses
- makes a list of the problems and of the requests for help by the patient

### **4.1.3 Patient history**

The graduate is capable of:

- taking a history (present complaint, previous history, mental and social condition), paying attention to medical content as well as aspects of communication
- systematic as well as hypothesis-oriented gathering of data
- taking a history from a third party

### **4.1.4 Physical examination**

The graduate is capable of:

- performing a general physical and mental examination, using the proper techniques and systematically collecting data
- recognising abnormalities and symptoms
- correct naming and description of findings

### **4.1.5 Initial problem analysis and plan (problem analysis I)**

This includes:

- interpreting and evaluating data from problem description, history, physical examination and other findings
- assessing the urgency of necessary actions
- assessing somatic and mental complaints and symptoms against the patient's social and cultural background, taking into account the previous history, gender-specific differences, epidemiological and occupational aspects and the mutual influence between work and health
- establishing a list of problems, differential diagnosis, tentative diagnosis or working hypothesis

### **4.1.6 Additional investigations**

The graduate:

- knows when to arrange or to perform additional investigations
- weighs whether or not to investigate further
- weighs the expected benefit against the burden on the patient, possible complications and costs (including the consequences of false-positive/false-negative results)
- works according to standard procedures if available
- knows the diagnostic procedures that can be requested and the principles of their execution
- interprets and evaluates the outcome of investigations
- pays attention to incidental findings of investigations

### **4.1.7 Extended problem analysis and plan (problem analysis II)**

The graduate:

- re-analyses the case with results of additional investigations
- makes sure the problem identified fits the request for help by the patient
- makes a tentative diagnosis, which serves as a starting point for therapy

#### 4.1.8 Management plan

The graduate:

- sets the therapeutic goal
- works out a management plan in consultation with the patient
- works according to standard procedures whenever available
- takes into account the expected effects of treatment as compared to the natural history, age, personal and family circumstances, expected compliance, potential side-effects, complications, continuity of care, possible co-morbidity and costs
- determines how and when treatment will be evaluated
- adjusts diagnosis and management plan during the course of the disease if necessary
- decides on how to instruct the patient about treatment, including information on effects and side-effects
- reassures the patient and explains to him the rationale of the therapeutic procedures, including (if pertinent) why no further action is taken
- discusses psycho-social issues (if relevant)
- advises the patient on way of life, work, behaviour, nutrition and other relevant issues
- knows the principles of pharmacology and pharmacotherapy, and the relevant drugs
- knows the practical aspects of prescribing medication (including legal requirements)
- selects the medication (taking into account age, gender and environmental factors of the patient, possible pregnancy, acceptance by the patient, contraindications, interactions, side-effects and drug dependency)
- selects the route of administration, dosage, dose-intervals and duration of therapy
- makes medication ready to use and administers it (parenterally)
- recognises overdose/poisoning and side-effects
- is aware of alternative medicine and can deal with patients who have recourse to it
- in referral/consultation the graduate:
  - refers to the right person (either general practitioner or specialist) and determines the urgency
  - writes a letter of referral (with specific questions and clear information)
  - writes a letter with a request for information to other health professionals

#### 4.1.9 Attending

The graduate:

- keeps reassuring the patient
- explains to the patient the progress of the illness and the results of new investigations
- involves the patient (or if relevant his guardian or family members) in further decision making
- advises him about the possibilities of self-care, volunteer aid and home care
- stimulates the co-operation and the personal responsibility of the patient
- knows how to deliver bad news and how to attend the patient and his relatives after having done so
- supports chronically and incurably ill people
- provides terminal care

#### 4.1.10 Reporting and making records

The graduate:

- records in a testable, unambiguous and readable manner:
  - the presenting complaint
  - the findings in the diagnostic process (history, physical and mental examination, problem list, differential diagnosis, possible additional investigation, risk factors)
  - the therapy instituted
  - arguments and considerations with respect to the diagnostic as well as the therapeutic process
  - findings from evaluation of the results of treatment

- communications to the patient/partners/friends
- the patients attitude towards his disease and the proposed treatment
- knows about storing medical records and about the right of access and of privacy of the patient

#### **4.1.11 Emergencies**

The graduate:

- performs primary and secondary assessment of patients with medical emergencies and after trauma
- performs basic life support (assessment, breathing, circulation, defibrillation) until the arrival of professional emergency medical personnel at the scene
- knows the principles of advanced cardiac life support (basic cardiac rhythm algorithms)
- shows professional behaviour in a crisis situation

#### **4.1.12 Prevention**

The graduate:

- knows of the health risks to an individual as well as at a collective level and the effects of preventive measures
- knows of frequently occurring relationships between environmental factors and diseases
- is acquainted with some methods for detecting persons and populations at risk
- knows some forms of primary (vaccination), secondary (screening) and tertiary prevention (medical care, social-medical support and attending)

### **4.2 Scientific aspects**

The following classification has been chosen:

- Principles of scientific investigation
- Meaning of the scientific approach for medical action
- Advancement and maintenance of professional competence

#### **4.2.1 Principles of scientific research**

The graduate:

- is aware of obligation to have all research involving humans approved through a research ethics committee
- recognises the need for fully informed and voluntary consent
- is familiar with:
  - general principles, methods (for instance those concerned with the collection of data) and concepts of scientific research
  - fundamentals of statistics
  - reporting, interpretation and evaluation of research
- has actively participated in research and is acquainted with scientific thinking

#### **4.2.2 Meaning of scientific approach for medical action**

The graduate:

- has a thorough knowledge of the scientific backgrounds of:
  - pathology, symptoms and diagnosis, therapy and prognosis
  - epidemiology
  - preventive health care

- is able to critically approach scientific data
- is able to critically appraise health care procedures, including those of paramedical professions

### 4.2.3 Advancement and maintenance of professional competence

The graduate:

- is aware that after undergraduate medical education postgraduate training is necessary, followed by lifelong learning
- is able to find, evaluate and transmit professional information in the literature and other sources, including:
  - searching for the relevant international literature (library, computer search)
  - making selections from relevant professional literature and keeping abreast of this literature
  - reading and critically evaluating the international medical literature
- is capable of adopting new concepts

## 4.3 Personal aspects

The following classification has been chosen:

- Doctor-patient relationship
- Personal performance and interaction of work with private life

### 4.3.1 Doctor-patient relationship

The graduate:

- demonstrates an unbiased, understanding and reliable attitude towards patients, regardless of gender, race, phase of life, social and economic status, education, culture, sexual preferences and philosophy of life
- aims at a doctor-patient relationship as equitable as possible
- copes with his personal feelings, inhibitions, norms and values evoked by contact with a patient or with someone of his close vicinity, such as erotic feelings, irritation, aversion, shame, etc.
- copes with the patient's feelings towards him
- listens to the wishes and complaints of the patient, is receptive to the patient as far as needs, expectations, norms and values are concerned, and takes these into account in his investigation, advice and treatment
- pays attention to the manner in which the patient copes with his complaint(s)
- transmits information tactfully and empathically, in a way the patient understands
- has understanding for the patient's situation and his social background
- shows personal interest in the patient and his environment and is aware of possible consequences of disease for family members and further environment (including working environment) of the patient
- considers the personal circumstances of the patient in his examination, advice, treatment and guidance
- keeps a functioning relationship with the patient, even if the patient rejects investigations or treatment
- detects feelings of dissatisfaction in the patient and/or himself with respect to the doctor-patient relationship and makes them a subject of discussion
- reacts adequately, if the relationship is (or threatens to become) disturbed or if there is a threat of too much intimacy. When adequate reaction is no longer possible, he seeks help himself

### **4.3.2 Personal performance and interaction of work with private life**

With respect to personal qualities ideally the graduate:

- copes with uncertainty
- copes with acute situations
- copes with stress
- carries responsibility
- recognises his own restrictions
- copes with feelings of helplessness
- is ready to take decisions
- is flexible and can handle rapidly changing situations
- preserves financial independence in relation to third parties

With respect to medical activities the graduate:

- is able to judge the limits and possibilities of medicine in a given situation
- copes with personal or others mistakes and is not afraid to recognise his own mistakes towards patients and colleagues and is able to learn from them
- copes with complications of clinical actions
- finds a balance between too much and too little medical interventions and is aware of the risks of over- and undertreatment
- is prepared to engage himself and to feel joint responsibility for the physical, mental and social wellbeing of persons and for all forms of health care
- recognises personal feelings, norms and values in relation to existential questions on life, death, disease and health, and deals with medical ethical questions
- respects the need for confidentiality

With respect to teamwork the graduate ideally:

- is able to perform in a group
- is prepared to have his medical work judged and tested by others and is able to judge the medical work of others
- copes with positive and negative criticism
- is prepared to seek the opinion of others at the appropriate time

With respect to private life the graduate:

- is aware of the mutual influences between work and private life and strives for a good balance between them, including caring for his own health

## **4.4 Aspects related to society and the health care system**

The following classification has been chosen:

- Structure and function of the health care systems
- Medical ethics
- Legal regulations

### **4.4.1 Structure and function of health care systems**

The graduate:

- knows the characteristics and interactions between hospital and community health care and social care
- is aware of the influence and interactions of the structure of health care with regard to functioning of doctors and patients
- knows about the influence of health care on public health



- knows about the effects of interventions in groups and in the environment
- knows the methods, tasks, expertise and qualifications of other health professionals and organisations in health care
- knows the professional organisations and the rules for the relation between colleagues
- is aware of societal influences on the health care system
- is aware of the various patients' associations and groups for self-help

#### 4.4.2 Medical ethics

The graduate:

- identifies ethical aspects of clinical practice such as in clinical research on human beings, diagnostics procedures, therapy and prevention
- is aware of international and national ethical guidelines on various topics (latest revision of the Declaration of Helsinki of the WMA, Guidelines of the Swiss Academy of Medical Sciences)
- can justify and clarify his personal ethical points of view
- shows empathy with the physical or moral suffering of patients also beyond the possibility of relieving them medically, particularly when accompanying the dying process after the limits of curative medicine have been reached
- has basic insight into medical decisions about the beginning and end of life
- is aware of possible conflicts of interest between the individual and the community

#### 4.4.3 Legal regulations

With respect to professional confidentiality the graduate:

- takes reasonable precautions to maintain confidentiality (verbal, telephone, fax or e-mail communication, charts, written or electronically stored and presentations at educational or research rounds)
- is aware that a physician may not disclose patient information except when expressly authorised by the patient to do so
- recognises situations in which third parties have a legitimate interest and right to information:
  - legal requirements in the interest of public health
  - legitimate interest of third parties (e.g. insurance companies)
  - duty to warn threatened individuals
- recognises the need to advise patient of obligatory disclosure of information
- recognises reasonable limits to disclosure, and reveals only the relevant and necessary information, in a situation requiring disclosure to a third party

With respect to consent to investigation or treatment the graduate:

- explains the legal and ethical basis for consent and recognises factors which can alter capacity of consent (e.g. disease, drugs, depression)
- recognises the patient's right to refuse or revoke consent to investigation in research protocol without prejudice to subsequent treatment
- recognises and weighs the right of consent of a minor and of consent of the parents or legal guardians to a medical act
- recognises the problems raised by psychiatric and mentally deficient patients
- recognises the legitimacy of the intentions of impaired patients as they may have been expressed (advance directives)
- recognises the duty to provide necessary emergency care where consent is unavailable

## 5. PROBLEMS AS STARTING POINTS FOR TRAINING

Here, a problem is defined as a complex of complaints, signs and symptoms (e.g. dyspnoea) which may bring a person to his physician. The problem solving goes beyond the classical exercise of establishing a differential diagnosis; it includes therapeutic, social, preventive, and other interventions. Problems were selected if

- they occur frequently
- even though the problem is rare, rapid and appropriate intervention may be life-saving

Problems which are life-threatening and require urgent intervention are marked with an asterisk (\*).

### General Symptoms

1. loss of blood\*
2. overweight/feeling too fat
3. loss of weight, emaciation
4. loss of appetite
5. malnutrition
6. fatigue
7. general feeling of illness
8. enlarged lymph nodes (lymphadenopathy), localised/generalized
9. high fever\*
10. fever of unknown origin
11. fever in the immune-compromised host/recurrent fever
12. hypothermia\*
13. abnormal perspiration
14. flushing
15. thirst
16. excessive fluid intake (polydipsia)
17. dehydration and overhydration\*
18. unexpected, sudden death of unknown aetiology and non-natural death\*

### Metabolic alterations and abnormal laboratory values

19. hyperglycaemia/diabetes mellitus
20. hypoglycaemia
21. abnormal serum calcium/phosphate
22. abnormal serum hydrogen ion
23. abnormal serum lipids
24. abnormal liver function tests
25. abnormal serum potassium/magnesium
26. abnormal serum sodium
27. abnormalities of white blood cells
28. anaemia
29. polycythaemia/elevated haemoglobin
30. hypoxia, hypoxaemia
31. proteinuria
32. renal failure, acute/chronic

### Skin manifestations

33. paleness
34. cyanosis
35. jaundice (icterus), including neonatal jaundice
36. acute swelling and changing colour of limbs\*
37. acute pain in limbs\*
38. skin inflammation, localised/generalised
39. skin eruptions
40. acne
41. increased bleeding tendency (haemorrhagic diathesis)
42. itching, localised/generalized
43. blistering dermatosis

44. insect sting
45. anaphylaxis\* and other allergic reactions
46. burn/cold injury\*
47. electrical trauma\*
48. bed sore (decubital ulcer)
49. mole (naevus)
50. change of skin pigmentation
51. skin tumours
52. screening for skin cancer
53. excess hair (hirsutism)
54. lack of hair (alopecia)
55. abnormalities of the nails

#### **Head, face, neck**

56. headache, recurring/chronic
57. headache, sudden/new\*
58. facial pain
59. lack of/diminished facial movement
60. lockjaw (trismus)
61. face injuries
62. toothache
63. neck pain
64. stiffness of neck
65. swelling in the neck
66. goitre

#### **Ear, nose, mouth, tongue, throat, voice**

67. ear ache
68. discharge from ear
69. loss of hearing, slow/sudden\*
70. ringing in the ears (tinnitus)
71. nose bleed (epistaxis)
72. nasal obstruction
73. nasal discharge
74. snoring
75. abnormalities of lips/tongue/mouth
76. increased secretion of saliva
77. dry mouth/throat
78. foetor oris (halitosis)
79. sore throat
80. problems with denture
81. alteration of voice (hoarseness, aphonia, dysphonia)

#### **Eyes**

82. slow loss of vision
83. sudden partial or temporary loss of vision or visual field\*
84. squint (strabismus)
85. night-blindness
86. floating objects in the eye
87. light flashes (photopsia)
88. double vision (diplopia)
89. photophobia
90. acute eye pain\*, burning in the eye
91. itching eye
92. red eye
93. tearing eye
94. eye obscured by pus or mucus
95. blepharospasm
96. abnormal eye movements
97. abnormalities of pupils
98. exophthalmos (proptosis)
99. trauma to the eye\*

**Breast, chest, heart, blood pressure, pulse**

100. breast: sense of weight/pain/tension
101. breast: change in size/outline/symmetry
102. gynaecomastia
103. breast lump
104. retracted skin/nipple
105. screening for breast cancer
106. discharging nipple, including galactorrhoea
107. eczema of nipple/areola
108. swollen axilla
109. wheezing respiration
110. dyspnoea\*
111. apnoea\*
112. hyperventilation
113. painful respiration
114. cough
115. haemoptysis
116. tightness of the chest, chest discomfort
117. chest pain\*
118. chest trauma\*
119. palpitations
120. arrhythmias\*
121. pulseless patient\*
122. hypertension
123. hypertensive crisis\*
124. hypotension
125. shock\*
126. vascular injuries

**Abdomen, stomach, bowels**

127. disorder of food passage, including dysphagia
128. regurgitation/belching of undigested food
129. swallowed foreign body
130. bloated abdomen/swollen sensation
131. pyrosis
132. epigastric pain
133. nausea, vomiting
134. abdominal pain, recurrent/chronic
135. acute abdomen\*
136. flatulence
137. diarrhoea, chronic/acute
138. constipation
139. haematemesis, melaena\*
140. altered colour or consistency of faeces, blood, mucus or pus in faeces
141. alteration of defecation pattern, false sensation of the need to defecate, painful defecation
142. faecal incontinence (encopresis)
143. rectal blood loss
144. screening for colon cancer
145. abdominal hernia, incarcerated hernia\*

**Pelvic symptoms, urogenital problems**

146. dysuria
147. disordered micturation
148. urinary retention\*
149. urinary incontinence (enuresis)
150. altered colour of urine
151. macrohaematuria\*
152. loin pain, including renal colic\*
153. swelling in groin
154. acute pain in scrotum\*
155. abnormal swelling of scrotum
156. urethral discharge
157. anomaly of male external genitalia

158. painful coitus (dyspareunia)
159. erectile and ejaculatory dysfunction
160. premenstrual syndrome
161. disorders of menstruation and menstrual cycle
162. dysmenorrhoea
163. pelvic pain
164. pelvic mass
165. uterine prolapse/pelvic relaxation
166. midcycle pain
167. vaginal bleeding, intermenstrual, postmenopausal, during pregnancy\*
168. vaginal discharge
169. abnormal female external genitalia
170. premature menopause
171. complaints related to the menopause, flushing
172. screening for cervical cancer
173. contraception
174. diagnosis of pregnancy (clinical diagnosis, tests)
175. request for genetic counselling
176. pregnancy with abnormal previous obstetric history or other risk factors
177. symptoms due to pregnancy
178. poor/excessive weight gain in pregnancy
179. fever during pregnancy
180. hypertension during pregnancy
181. abdominal pain during pregnancy
182. vaginal blood loss during pregnancy
183. fluid retention during pregnancy
184. lack of foetal movement
185. loss of amniotic fluid
186. premature labour
187. abnormal duration of pregnancy

#### **Newborn, child, development**

188. examination of the newborn (APGAR-score)
189. child with abnormal birth weight
190. irritable/crying infant
191. infant with colic
192. diaper rash
193. problems with breast feeding
194. failure to thrive
195. unwillingness to eat/drink
196. limp/pain in lower extremity in children
197. motor/mental retardation, developmental delay
198. temporary interruption of development
199. short stature
200. sudden infant death syndrome
201. precocious puberty, delayed puberty
202. disorder of development of secondary sex characteristics
203. delayed menarche
204. premature menarche
205. hyperactive child
206. overanxious parents

#### **Bones, joints, back, extremities**

207. typical fractures: radius, scaphoid, finger, humerus, clavicle , vertebra, ribs, neck of femur, pelvis, ankle
208. laceration, open wound
209. traumatic amputation\*
210. surgical wound with delayed healing or infection
211. contusion, soft tissue bruising
212. distortion (ankle/hand)
213. dislocation (shoulder/finger)
214. shoulder trauma
215. knee injury
216. polytrauma (including management on the spot)\*

- 217. swollen or painful joints
- 218. abnormalities of joints
- 219. morning stiffness
- 220. loss or reduction of strength
- 221. muscular ache (myalgia)
- 222. spinal compression/osteoporosis
- 223. pain in the back
- 224. abnormal gait
- 225. abnormal posture
- 226. exercise-induced leg pain (claudication)
- 227. leg oedema (unilateral/bilateral), generalised oedema
- 228. leg ulcers

**Disorders of consciousness, balance, orientation, gait, movement**

- 229. dizziness/vertigo, acute\*/chronic
- 230. loss of consciousness/change of consciousness/blackout/coma\*
- 231. falls and repeated drop attacks
- 232. twitch, epileptic fit, convulsion, seizure\*
- 233. cerebral and spinal cord trauma\*
- 234. acute paralysis including hemiplegia\*
- 235. tingling (paraesthesia)
- 236. change in sense of touch in the skin
- 237. tremor
- 238. abnormal involuntary movements (dyskinesia)/tic disorders
- 239. nerve injuries

**Mental, behavioural and psychological problems**

- 240. disorder of speech or language
- 241. acute change in behaviour\*/personality
- 242. impulsive behaviour
- 243. hazardous behaviour
- 244. obsessive-compulsive symptoms
- 245. aggressive and violent behaviour towards others\*
- 246. autoaggressive behaviour, risk of suicide\*
- 247. self-neglect
- 248. loss of initiative and interest
- 249. change in emotions and moods
- 250. nervousness, tension, anxiety
- 251. acute stress, transient situation-related tension
- 252. agitation
- 253. confusion
- 254. forgetfulness, disorders of memory
- 255. psychotic patient
- 256. disorder of attention and concentration
- 257. sleep-wake cycle disturbances
- 258. reversal of day/night rhythm
- 259. abuse of alcohol
- 260. abuse of tobacco
- 261. abuse of medicines
- 262. drug abuse and dependence
- 263. poisoning\*

**Other reasons for medical consultation or problems in medical care**

- 264. infant and child immunisation
- 265. check up before/after trip to foreign(tropical) country
- 266. request for medical certificate
- 267. anxiety about side-effect of drugs
- 268. polypharmacy
- 269. inappropriate medical care\*, e.g. doctor shopping
- 270. uncooperative or non-compliant patient with serious illness\*
- 271. patient-doctor sexual relationship
- 272. psychological and physical abuse, including assault, rape
- 273. postoperative problems
- 274. problems in coping with illness

- 275. fear of venereal disease
- 276. fear of cancer or other serious disease
- 277. fear of contamination
- 278. terminal disease, the dying patient

**Psychosocial and interpersonal problems**

- 279. loss/death of partner or someone close, illness in partner or someone close
- 280. problems at work concerning work conditions
- 281. absenteeism/non-attendance (school/work)
- 282. financial problems of patient, unemployment
- 283. problems in relationship parents/partner/child
- 284. problems with bringing-up, behavioural disturbances in child
- 285. problems at school, learning disorders

## 6. EXPLANATION OF LEVELS AND LETTERS OF DISCIPLINE-RELATED OBJECTIVES

### 6.1 Explanation of the levels and letters of competence for „Clinical Picture“ and „Further Knowledge“

#### **Level 1**      *be able to recognise or place:*

In **Clinical pictures**: the doctor does not have to be able to deal with this clinical picture, but he is supposed to have heard of it. This means that, when confronted with it in the literature or in correspondence, he can place this clinical picture and knows how to acquire more information.

In **Further knowledge**: this level indicates an overview level. The doctor must be able to roughly define the concept and to recognise it as a relevant clinical item or health matter. He knows the epidemiology and how to acquire more information.

In *Pharmacotherapy* this means an overview level on a class of drugs.

#### **Level 2**      *be able to cope with in practice:*

In **Clinical pictures**: the doctor must be able to cope with this clinical picture in practice. This means, that in an actual situation he must be able to consider this clinical picture as a diagnosis. This assumes knowledge of the clinical picture. The extent of this knowledge varies according to the clinical picture, but contains at least knowledge of the presentations and complaints, and knowledge of diagnostic and therapeutic possibilities. It includes knowledge of the relevant pathology, histology and epidemiology, as well as of the pathophysiology (or psychodynamics for certain psychiatric items).

In **Further knowledge**: this level indicates a level of insight at a professional level. It includes the ability to describe the notion and its epidemiology, interpret findings and drawing a rough plan of intervention or protection if relevant.

In *Pharmacotherapy* this implies knowledge of the mechanism of action, kinetics (if relevant), indication, dosage, side effects and interactions of the drug.

**Note:** If the same item appears with different levels of competence under more than one discipline, the highest rating applies.



<b>D</b>	<p>The <b>diagnosis</b> must be made personally by means of physical examination, simple aids or additional investigation requested and interpreted by the doctor himself (e.g. chest radiograph, electrocardiogram).</p> <p><i>For example the letter D does not apply for breast cancer, since its diagnosis requires taking and interpreting a biopsy, knowledge beyond a graduate in medicine.</i></p> <p>Attribution of this letter requires level 2 of competence.</p>
<b>T</b>	<p>The <b>therapy</b> must be carried out by the doctor personally, referring to the most common therapy for an uncomplicated illness.</p> <p>Attribution of this letter requires level 2 of competence.</p>
<b>C</b>	<p>The <b>case management</b> must be carried out by the doctor personally, referring to the most common case management for a case.</p> <p>Attribution of this letter requires level 2 of competence.</p>
<b>E</b>	<p>The doctor has to be able to perform primary and secondary assessment of patients and initiate <b>emergency measures</b>. <i>The letter E may be attributed even in absence of the letter D. The doctor in this case is not required to establish a firm diagnosis; he may act on a well founded suspicion.</i></p> <p><i>Example: Referral to hospital in case of suspicion of bacterial meningitis</i></p>
<b>L</b>	<p>The doctor must have knowledge of <b>legal aspects</b>:</p> <ul style="list-style-type: none"> <li>- at level 1: knowledge that a law exists</li> <li>- at level 2: knowledge of law</li> </ul>
<b>P</b>	<p>The doctor must be able to identify and initiate appropriate <b>preventive measures</b>.</p>
<b>G</b>	<p>The letter G defines a particularly relevant problem for <b>General Practice and Outpatient Medicine</b>.</p>

## 6.2 Explanation of the levels of competence for “Skills”

<p><b>Level 1</b>     <i>only theory:</i> the doctor must at least have the theoretical knowledge (principle, indication, contraindication, burden, performance, complications) of the skill.</p>
<p><b>Level 2</b>     <i>seen or have had demonstrated:</i> the doctor has at least the theoretical knowledge regarding the skill and has had demonstrated the performance of the skill in question (live, by simulator, video or other media).</p>
<p><b>Level 3</b>     <i>apply / perform:</i> the doctor must at least have the theoretical knowledge regarding the skill; besides he has performed the skill in question under supervision at least several times (live or simulator).</p>
<p><b>Level 4</b>     <i>routine:</i> the doctor must have the theoretical knowledge regarding the skill and has experience in using and performing the skill.</p>

**Note:** If the same skill appears with different levels of competence under more than one discipline, the highest rating applies.

## 7. Discipline Related Objectives

# General Practice and Outpatient Management (if not covered elsewhere)

## Skills

### consultation

- travel-related medical problems 2
- sports-related medical problems 1
- family planning and sexual counselling 2

### general examination

- assessment of work capacity 2
- assessment of aptitude for driving, for diving, for service with fire brigade or the military 2

### laboratory

- logistics of laboratory work up in outpatient practice 2

### patient and practice management

- phone call from or to patient 2
- taking a bio-psycho-social history, adapted to kind and severity of health disturbance 4
- organisation of consultations and office hours 2
- house call to patient 2
- incidental involvement "on the road" 2
- caring for and supporting patients with chronic disease 1
- conservative management of self-limiting disease ("wait and see") 2
- management of polymorbid patient 2
- coping with dysfunctional families 1
- use house call to assess psycho-social, oeconomic and hygenic situation 2
- active and passive physiotherapy 2
- continuous adaptation of patient management based on new informations 3

# Internal Medicine

## Clinical Picture

### addiction / poisonings

- paracetamol overdose	2	D	-	E	-	-
- carbon monoxide poisoning	2	D	T	E	-	-
- selfpoisoning by other drugs	2	D	-	E	-	-
- amphetamin overdose	2	-	-	-	-	-
- heroin overdose	2	D	T	E	-	-

### auto-immune, rheumatological and skeletal disorders

- erythema multiforme	1	-	-	-	-	-
- rheumatic fever	2	D	-	-	-	-
- polymyositis / dermatomyositis	1	-	-	-	-	-
- Sjögren's disease	1	-	-	-	-	-
- temporal arteritis	2	D	T	-	-	-
- polymyalgia rheumatica	2	D	T	-	-	G
- juvenile chronic arthritis	1	-	-	-	-	-
- antiphospholipid antibody syndrome	1	-	-	-	-	-
- Henoch-Schönlein purpura	1	-	-	-	-	-
- systemic lupus erythematosus	2	-	-	-	-	-
- Raynaud's phenomenon	2	D	-	-	-	-
- pes planus	2	D	-	-	-	-
- vasculitis not otherwise classified	1	-	-	-	-	-
- osteogenesis imperfecta	1	-	-	-	-	-
- Behcet's disease	1	-	-	-	-	-
- scleroderma	1	-	-	-	-	-
- enteropathic arthritis	1	-	-	-	-	-
- Paget's disease	1	-	-	-	-	-
- pseudogout	2	-	-	-	-	-
- gout	2	D	T	-	-	G
- osteoporosis	2	D	T	-	P	G
- slipped epiphysis	1	-	-	-	-	-
- spinal stenosis	2	D	-	-	-	-
- spinal deformation (kyphosis, scoliosis, lordosis)	2	D	-	-	-	G

- Morton neuralgia	1	-	-	-	-	-
- Marfan's syndrome	1	-	-	-	-	-
- psoriatic arthritis	2	-	-	-	-	-
- achondroplasia	1	-	-	-	-	-
- ankylosing spondylitis	2	-	-	-	-	-
- osteomalacia	2	D	T	-	-	-
- bone metastases	2	-	-	-	-	-
- prepatellar / olecranon bursitis	2	-	-	-	-	G
- genu valgum (knock knee)	2	D	-	-	-	-
- Wegener's granulomatosis	1	-	-	-	-	-
- club foot	1	-	-	-	-	-
- reflex sympathetic dystrophy (Sudeck)	2	-	-	-	-	-
- erythema nodosum	2	-	-	-	-	-
- polyarteritis nodosa	1	-	-	-	-	-
- sarcoidosis	2	-	-	-	-	-
- Reiter's disease	1	-	-	-	-	-
- periarthropathia coxae	1	-	-	-	-	G
- periarthropathia humeroscapularis (frozen shoulder)	2	D	-	-	-	G
- Achilles tendinitis	2	D	-	-	-	G
- hernia of nucleus pulposus	2	D	-	E	-	G
- lateral epicondylitis (tennis elbow)	2	D	-	-	-	G
- osteoarthritis deformans	2	D	T	-	-	G
- fibrous dysplasia	1	-	-	-	-	-
- chondromalacia patellae	2	D	-	-	-	G
- Legg Perthes disease	1	-	-	-	-	-
- carpal tunnel syndrome	2	D	-	-	-	G
- Dupuytren's contracture	2	D	-	-	-	-
- septic arthritis	2	-	-	E	-	-
- Scheuermann's disease (juvenile kyphosis)	2	-	-	-	-	G
- monoarticular arthritis	2	D	-	-	-	-
- rheumatoid arthritis	2	D	-	-	-	G
- common low back pain	2	-	-	-	-	-
- intermittent arthritis of the hip	2	-	-	-	-	-
- aseptic necrosis of bone	2	-	-	-	-	-
- septic spondylitis, spondylodiscitis	2	-	-	E	-	-
- fibromyalgia	2	-	-	-	-	-
- acute osteomyelitis	2	-	-	-	-	-

- spondylolysis	1	-	-	-	-	-
- spondylolisthesis	2	-	-	-	-	-
- Osgood-Schlatter disease	1	-	-	-	-	-
- spondylarthrosis, spondylosis	2	-	-	-	-	G

### disorders of liver, gall bladder and pancreas

- chronic hepatitis	2	-	-	-	-	-
- alcoholic hepatitis	2	-	-	-	P	-
- liver cyst e.g. echinococcus cyst	1	-	-	-	-	-
- amoebiasis of liver	1	-	-	-	-	-
- cholelithiasis	2	-	-	-	-	G
- portal hypertension	2	D	-	-	P	-
- liver failure	2	-	-	-	-	-
- carcinoma of pancreas	2	-	-	-	-	-
- cirrhosis	2	D	-	-	P	G
- pancreatitis	2	D	-	-	-	-
- cystic fibrosis	1	-	-	-	-	-
- primary liver carcinoma	1	-	-	-	-	-
- cholecystitis including biliary colic	2	-	-	E	-	-
- malignancy of gall bladder	1	-	-	-	-	-
- carcinoma of bile ducts	1	-	-	-	-	-
- Budd-Chiari disease	1	-	-	-	-	-
- viral hepatitis	2	D	-	-	P	-
- metastases in liver	2	-	-	-	-	-

### endocrinological disorders

- hyperlipoproteinemia and dyslipoproteinemia	2	-	T	-	P	-
- primary hyperaldosteronism	1	-	-	-	-	-
- pheochromocytoma	2	-	-	-	-	-
- hypogonadism	1	-	-	-	-	-
- adrenogenital syndrome	1	-	-	-	-	-
- multiple endocrine neoplasia (MEN-syndromes)	1	-	-	-	-	-
- tumour with ectopic production of hormones	1	-	-	-	-	-
- adreno-cortical failure	2	-	-	E	-	-
- acromegaly	1	-	-	-	-	-
- obesity	2	D	-	-	P	G
- diabetes mellitus type 1	2	D	T	-	-	G

- diabetes mellitus type 2	2	D	T	-	P	G
- acute complications of diabetes mellitus	2	D	T	E	-	G
- chronic complications of diabetes mellitus	2	D	T	-	P	G
- Cushing's disease	2	-	-	-	-	-
- diabetes insipidus	1	-	-	-	-	-
- thyroid nodule	2	-	-	-	-	-
- hypopituitarism	1	-	-	-	-	-
- pituitary tumours	1	-	-	-	-	-
- hyperparathyroidism	1	-	-	-	-	-
- hypoparathyroidism	1	-	-	-	-	G
- hyperthyroidism	2	D	-	-	-	G
- hypothyroidism	2	D	T	-	-	G
- thyroiditis	2	-	-	-	-	-
- hypoglycaemia	2	D	T	E	-	G

### **gastrointestinal disorders**

- polyposis coli	2	-	-	-	-	-
- oesophageal varices	2	-	-	-	-	-
- Zollinger-Ellison syndrome	1	-	-	-	-	-
- Mallory-Weiss syndrome	1	-	-	-	-	-
- rectal prolapse	2	D	-	-	-	-
- perforation of stomach	2	-	-	E	-	-
- angiodysplasia of colon	1	-	-	-	-	-
- carcinoma of stomach	2	-	-	-	-	-
- peptic ulcer, incl. helicobacter infection	2	-	T	-	-	-
- malabsorption	2	-	-	-	-	-
- hiatus hernia	2	-	-	-	-	G
- pyloric stenosis	1	-	-	-	-	-
- reflux oesophagitis including Barrett's oesophagus	2	-	T	-	-	G
- carcinoma of oesophagus	2	-	-	-	P	-
- spasm of oesophagus	1	-	-	-	-	-
- achalasia	1	-	-	-	-	-
- recurrent aphthous ulcers of buccal mucosa	2	D	-	-	-	G
- herpetic stomatitis	2	-	-	-	-	-
- candidiasis, mouth/throat	2	D	T	-	-	-
- gastritis	2	-	T	-	-	-
- colonic polyps	2	-	-	-	-	-

- fissure-in-ano	2	D	-	-	-	-
- haemorrhoids	2	D	-	-	-	G
- proctitis	2	-	-	-	-	-
- gastric bleeding	2	D	-	E	-	-
- malignancy of colon	2	-	-	-	-	G
- mechanical ileus	2	D	-	E	-	-
- diverticulosis, diverticulitis	2	-	-	-	-	G
- carcinoid tumours	1	-	-	-	-	-
- irritable bowel syndrome, chronic abdominal pain	2	-	-	-	-	G
- paralytic ileus	2	D	-	E	-	-
- ulcerative colitis	2	-	-	-	-	-
- pseudomembranous colitis	2	-	-	-	-	-
- infectious colitis	2	-	-	-	-	-
- ischaemic colitis	1	-	-	-	-	-
- Crohn's disease	2	-	-	-	-	-
- typhoid fever	2	-	-	-	-	-
- coeliac disease	1	-	-	-	-	-
- megacolon, toxic	1	-	-	-	-	-

### geriatrics (items not covered elsewhere)

- euthanasia	1	-	-	-	-	-
- advance directives	1	-	-	-	-	-
- principles of long-term institutional and home care	1	-	-	-	-	G
- role of rehabilitation in the disabled elderly	1	-	-	-	-	G
- pharmacological issues in ageing	2	-	-	-	-	G
- nonspecific or atypical presentation of disease in old	1	-	-	-	-	G
- concept of impairment, disability, and handicap in old	1	-	-	-	-	G
- elder abuse and neglect	2	D	-	-	-	-
- concept and consequences of multimorbidity in old age	1	-	-	-	-	G

### haematological disorders

- haemolytic anaemia	2	-	-	-	-	-
- anaemia associated with chronic diseases	2	-	-	-	-	-
- Waldenström's macroglobulinaemia	1	-	-	-	-	-
- myeloma	2	-	-	-	-	-
- non-Hodgkin's lymphoma	2	-	-	-	-	-
- Hodgkin's lymphoma	2	-	-	-	-	-



- chronic myeloid leukaemia	2	-	-	-	-	-
- chronic lymphocytic leukaemia	2	-	-	-	-	-
- agranulocytosis	2	D	-	E	-	-
- Von Willebrand's disease	1	-	-	-	-	-
- disseminated intravascular coagulation	1	-	-	-	-	-
- thrombocytosis	1	-	-	-	-	-
- thrombocytopenia	2	D	-	-	-	-
- polycythemia	2	-	-	-	-	-
- haemoglobinopathy	1	-	-	-	-	-
- macrocytic anaemia	2	D	T	-	-	G
- iron-deficiency anaemia	2	D	T	-	-	G
- aplastic/ hypoplastic anaemia	1	-	-	-	-	-
- acute leukaemia	2	-	-	-	-	-
- haemophilia A+B	2	-	-	-	-	-

### immunological / allergic reactions

- anaphylactic reaction	2	D	T	E	-	-
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### infectious diseases, not mentioned elsewhere

- tuberculosis	2	-	-	-	P	-
- schistosomiasis	1	-	-	-	-	-
- toxocariasis	1	-	-	-	-	-
- amoebiasis	1	-	-	-	-	-
- reportable infectious diseases	1	-	-	-	-	-
- AIDS	2	-	-	-	-	-
- giardiasis	1	-	-	-	-	-
- meningitis	2	D	-	E	-	-
- cat scratch disease	1	-	-	-	-	-
- tetanus	2	-	-	-	P	-
- parasites of bowel	1	-	-	-	-	-
- lymphangitis	2	D	-	-	-	-
- prion diseases	1	-	-	-	-	-
- toxoplasmosis	2	-	-	-	-	-
- infectious mononucleosis	2	D	-	-	-	G
- rickettsial diseases	1	-	-	-	-	-
- acute infectious diarrheal diseases including traveler's diarrhea (pathogenic e.coli) and food poisoning	2	-	T	-	-	-
- Weil's disease (leptospirosis)	1	-	-	-	-	-

- cytomegalovirus	2	-	-	-	-	-
- influenza	2	D	T	-	-	G
- herpes simplex	2	D	T	-	-	G
- herpes zoster	2	D	T	-	-	G
- erysipelas	2	D	T	-	-	G
- malaria	2	-	-	E	P	-
- cholera	1	-	-	-	-	-
- Lyme disease	2	-	-	-	-	-

### neurological disorders

- meningitis	2	D	-	E	-	-
- meningioma	1	-	-	-	-	-
- glioma	1	-	-	-	-	-
- HIV - neurological complications	2	-	-	-	-	-
- muscular dystrophy, general	1	-	-	-	-	-
- Herpes simplex-encephalitis	1	-	-	-	-	-
- neurofibromatosis (Von Recklinghausen's disease)	1	-	-	-	-	-
- borreliosis	2	-	-	-	-	-
- carpal tunnel syndrome	2	D	-	-	-	G
- encephalitis and brain abscess	1	-	-	-	-	-
- disorders of autonomic nervous system	1	-	-	-	-	-
- disorders of cranial nerves not mentioned elsewhere	1	-	-	-	-	-
- metastases in brain	2	-	-	-	-	-
- ulnar nerve palsy	1	-	-	-	-	-
- stupor and coma	2	-	-	E	-	-
- radial nerve palsy	1	-	-	-	-	-
- syphilis	1	-	-	-	-	-
- hydrocephalus	2	-	-	-	-	-
- cerebral palsy	2	-	-	-	-	-
- poisoning by medication and illicit drugs	2	D	T	-	-	-
- lead poisoning	1	-	-	-	-	-
- alcohol intoxication	2	D	-	-	-	-
- carbon monoxide poisoning	2	D	-	E	-	-
- polymyositis	1	-	-	-	-	-
- traumatic spinal cord lesion	2	D	-	E	-	-
- neural tube defects	2	D	-	-	-	-
- spinal metastases	2	-	-	-	-	-

- mental retardation	2	-	-	-	-	-
- whiplash injury	1	-	-	-	-	-
- injury of plexus and peripheral nerves	1	-	-	-	-	-
- subdural haemorrhage	2	-	-	-	-	-
- extradural haemorrhage	2	-	-	-	-	-
- brain death	1	-	-	-	-	-
- raised intracranial pressure	2	-	-	-	-	-
- peroneal palsy	2	D	-	-	-	-
- non-rhythmic dyskinesias	1	-	-	-	-	-
- sleep apnoea syndrome	1	-	-	-	-	G
- multi-infarct dementia	2	-	-	-	-	G
- encephalopathies (metabolic, endocrine, autoimmune, mitochondrial)	1	-	-	-	-	-
- Wernicke-Korsakoff's encephalopathy	2	D	T	E	-	-
- Creutzfeldt-Jakob's disease	1	-	-	-	-	-
- Parkinson's disease	2	D	-	-	-	G
- Alzheimer's disease	2	-	-	-	-	G
- Tremor, essential and symptomatic	1	-	-	-	-	G
- vestibular neuritis	2	-	-	-	-	G
- restless legs	1	-	-	-	-	G
- Ataxia and cerebellar syndromes	1	-	-	-	-	-
- generalized seizures	2	D	-	E	-	G
- focal epilepsy	2	-	-	-	-	-
- absence seizures	2	-	-	-	-	-
- status epilepticus	2	D	-	E	-	-
- narcolepsy	1	-	-	-	-	-
- Huntington's disease	1	-	-	-	-	-
- intracerebral haematoma	2	-	-	-	-	-
- tension headache	2	D	T	-	-	G
- migraine	2	D	-	-	-	G
- cranial arteritis	2	-	-	-	-	-
- trigeminal neuralgia	2	-	-	-	-	-
- cluster headache	1	-	-	-	-	-
- secondary headaches not otherwise classified (glaucoma, sinusitis, cerebral venous thrombosis etc.)	2	-	-	-	-	G
- fronto-temporal atrophies	1	-	-	-	-	-
- cerebral infarction	2	-	-	-	-	-

- bulbar palsy	1	-	-	-	-	-
- subarachnoid haemorrhage	2	-	-	-	-	-
- vascular encephalopathy	1	-	-	-	-	-
- central facial palsy/paralysis	2	D	-	-	-	-
- brain stem lesions not otherwise classified	1	-	-	-	-	-
- internuclear ophthalmoplegia and gaze nystagmus	1	-	-	-	-	-
- Menière's disease	2	D	-	-	-	-
- benign positioning vertigo	2	-	-	-	-	G
- transient ischaemic attacks (TIA)	2	D	-	E	-	G
- myelopathy due to stenosis of spinal canal	2	-	-	-	-	-
- Guillain-Barré syndrome and related disorders	2	-	-	-	-	-
- radicular syndromes, cervical and lumbar	2	D	-	-	-	G
- peripheral neuropathies not otherwise classified	1	-	-	-	-	-
- polyneuropathy	2	D	-	-	-	G
- neuropathy of brachial plexus	1	-	-	-	-	-
- Wallenberg's syndrome	1	-	-	-	-	-
- myasthenia gravis	2	-	-	-	-	-
- peripheral facial palsy/paralysis	2	D	-	-	-	-
- multiple sclerosis	2	-	-	-	-	-
- neurogenic bladder	1	-	-	-	-	-
- syringomyelia	1	-	-	-	-	-
- subacute combined degeneration	1	-	-	-	-	-
- cauda equina syndrome	2	-	-	-	-	-
- Brown-Séquard syndrome	1	-	-	-	-	-
- complete spinal transection	2	-	-	-	-	-
- amyotrophic lateral sclerosis	1	-	-	-	-	-
- Horner's syndrome	1	-	-	-	-	-
- traumatic brain injury	2	D	-	-	-	-
- dementia	2	D	-	-	-	-
- Parkinsonian syndromes	2	D	-	-	-	-

### renal disorders

- carcinoma of bladder	2	-	-	-	-	-
- polycystic kidneys	1	-	-	-	-	-
- urolithiasis	2	-	-	-	-	-
- renal colic	2	D	T	E	-	-
- interstitial nephritis	1	-	-	-	-	-

- chronic glomerulonephritis	2	-	-	-	-	-
- acute glomerulonephritis	2	-	-	-	-	-
- nephrotic syndrome	2	D	-	-	-	-
- chronic renal failure	2	D	-	-	-	G
- acute renal failure	2	D	-	E	-	-
- urinary tract infection, cystitis, urethritis	2	D	T	-	-	G
- Goodpasture's syndrome	1	-	-	-	-	-

### respiratory disorders

- adult respiratory distress syndrome (ARDS)	1	-	-	-	-	-
- lung infarction	2	-	-	-	-	-
- pulmonary embolism	2	-	-	-	P	-
- interstitial lung disease	1	-	-	-	-	-
- lung fibrosis	1	-	-	-	-	-
- lung abscess	1	-	-	-	-	-
- pneumonia due to other causes	2	D	T	-	-	G
- other infectious pneumonias	2	D	T	-	-	-
- pneumonia caused by opportunistic infection including pneumocystis carinii	2	D	T	-	-	-
- metastases in lung	2	-	-	-	-	-
- hyperventilation syndrome	2	D	T	E	-	G
- mediastinitis	1	-	-	-	-	-
- respiratory insufficiency	2	D	-	E	-	-
- bronchiectasis	1	-	-	-	-	-
- atelectasis	2	-	-	-	-	-
- lung emphysema	2	D	-	-	P	G
- allergic pulmonary disease	1	-	-	-	-	-
- acute asthma	2	D	-	E	-	G
- bronchial asthma	2	D	T	-	-	G
- chronic bronchitis	2	D	T	-	P	G
- acute bronchitis	2	D	T	-	-	G
- tracheitis	2	-	T	-	-	-
- pneumonia due to streptococcus pneumoniae	2	D	T	-	-	G
- lung carcinoma	2	-	-	-	P	-
- pleurisy	2	D	-	-	-	-
- empyema	2	-	-	-	-	-
- pneumothorax, spontaneous	2	D	-	-	-	-

- tension pneumothorax	2	D	T	E	-	-
- mesothelioma	1	-	-	-	-	-

**vascular diseases**

- coarctation of the aorta	1	-	-	-	-	-
- complete atrio-ventricular heart block	2	D	-	E	-	-
- ventricular premature beat	2	D	-	-	-	G
- endocarditis	2	-	-	-	P	-
- supraventricular premature beat	2	D	-	-	-	G
- other arrhythmias	2	-	-	-	-	-
- ventricular tachycardia	2	D	T	E	-	-
- secondary hypertension	2	-	-	-	-	-
- abdominal aortic aneurism	2	-	-	E	-	-
- aortic dissection	2	-	-	E	-	-
- claudication	2	D	-	-	P	G
- pericarditis	2	D	-	-	-	-
- myocarditis	1	-	-	-	-	-
- hypertension	2	D	T	-	-	G
- pulmonary hypertension	1	-	-	-	-	-
- Raynaud's disease (and Raynaud's phenomenon)	2	D	-	-	-	-
- thrombosis, arterial	2	D	-	E	-	-
- deep vein thrombosis	2	-	T	-	P	G
- thrombophlebitis	2	D	T	-	-	G
- embolism (arterial)	2	-	-	-	-	-
- atherosclerosis (disseminated)	2	D	-	-	P	G
- ventricular fibrillation	2	D	T	E	-	-
- cardiomyopathy	1	-	-	-	-	-
- sinus tachycardia	2	D	-	-	-	G
- shock	2	D	-	E	-	-
- bundle branch block	2	-	-	-	-	G
- atrial flutter	2	D	-	-	-	-
- supraventricular tachycardia	2	D	-	-	-	-
- atrial septal defect	1	-	-	-	-	-
- ventricular septal defect	1	-	-	-	-	-
- other valvular heart disease	2	-	-	-	-	-
- aortic regurgitation	2	-	-	-	-	-
- aortic stenosis	2	-	-	-	-	G

- tricuspid regurgitation	2	-	-	-	-	-
- mitral regurgitation	2	-	-	-	-	G
- mitral stenosis	2	-	-	-	-	-
- angina pectoris	2	D	T	E	P	G
- septic shock	2	D	-	E	-	-
- cardiogenic shock	2	D	-	E	-	-
- atrial fibrillation	2	D	T	E	-	G
- cardio-respiratory arrest	2	D	T	-	-	G
- hypovolaemic shock	2	D	T	E	-	-
- unstable angina	2	D	T	E	P	G
- cardiac aneurysm	1	-	-	-	-	-
- heart failure, left and right ventricular failure	2	D	T	E	-	G
- myocardial infarction	2	D	T	E	P	G

### vitamin deficiency / intoxication

- thiamine deficiency	2	-	T	E	-	-
- vitamines B12 deficiencies	2	-	T	-	-	G
- porphyrias	1	-	-	-	-	-
- other vitamines deficiencies/intoxications	2	-	-	-	-	-

## Skills

### abdomen

- auscultation (bowel sounds, bruits)	4					G
- eliciting renal tenderness	4					G
- percussion (especially liver, Traube's area, bladder dullness)	4					G
- eliciting shifting dullness	4					G
- eliciting abdominal tenderness and rebound tenderness	4					G
- inspection	4					G
- palpation (abdominal wall, colon, liver, spleen, aorta, rigidity)	4					
- eliciting a fluid thrill	4					G

### chest

- palpation of tactile fremitus	4					G
- palpation of breasts	4					G
- inspection of breasts	4					G
- auscultation of heart	4					G

Internal Medicine	Skills	chest	
	- auscultation of lungs	4	G
	- percussion of lungs, lung bases	4	G
	- palpation of apical impulse	4	G
	- palpation of respiratory expansion	4	G
	- inspection at rest	4	G
	- inspection during respiration	4	G
<b>extremities</b>			
	- examination of motor system	4	G
	- inspection of joints	4	G
	- assessment of range of joint motion	3	G
	- assessment of capillary pulse	2	G
	- assessment of capillary refill	2	G
	- palpation of arterial pulses	4	G
	- detection of arterial bruits	4	G
	- palpation of skin, tendons, joints	4	G
	- examination of sensory system	4	G
	- inspection of skin, nails, muscle tone	4	G
	- Trousseau's sign	2	
	- eliciting reflexes: knee reflex, ankle reflex, triceps reflex, biceps reflex, plantar response	4	G
	- assessment of range of motion of joints	4	G
<b>female genitalia</b>			
	- inspection of vulva, perineum	4	G
<b>general assessment and vital signs</b>			
	- inspection of mucous membranes	4	G
	- general appearance	4	G
	- nutritional condition	4	G
	- habitus and posture	4	G
	- respiration	4	G
	- pulse	4	G
	- blood pressure	4	G
	- jugular venous pressure	4	G
	- height and weight	4	G
	- patient history including from third party (personal, family, social history)	4	G
	- mental status	4	G



Internal Medicine	Skills	general assessment and vital signs	
	- inspection and palpation of skin	4	G
	- palpation of lymph nodes	4	G
<b>geriatrics (skills not covered elsewhere)</b>			
	- environmental assessment (assessment of home environment including risk factors for fall)	1	
	- evaluation of decision-making capacity in cognitively impaired person	2	
	- assessment of physical function including standardised assessment of basic activities of daily living, instrumental activities of daily living, and mobility	3	G
<b>head / neck</b>			
	- palpation of thyroid gland	4	G
	- detection of neck stiffness	4	G
	- palpation of trachea	4	
	- throat swab	4	G
	- palpation of salivary glands	4	G
	- Chvostek's sign	2	
	- inspection of eyes, nose, mouth and throat	4	
<b>internal medicine investigations</b>			
	- joint fluid aspiration	2	
	- synovial analysis (cell count, crystals, gram)	2	
	- echography	2	
	- gastric endoscopy	2	
	- proctoscopy	2	
	- preparation and examination of urinary sediment	3	G
	- taking a mid-stream urine sample	3	G
	- venepuncture	4	G
	- methods of pathogen identification by serology (direct, morphologically, by immuno-staining,	1	
	- preparation and examination of blood film	3	G
	- finger prick	4	G
	- arterial puncture	2	
	- assessment of gram stain	2	
	- tapping ascites	2	
	- pleural tap	2	
	- electrocardiography	3	G
	- exercise ECG testing	1	

Internal Medicine	Skills	internal medicine	
- Doppler examination		2	
- Holter examination		1	
- cardiac catheterisation		2	
- echocardiography		2	
- kidney or liver biopsy		1	
- lung function tests / spirometry		2	
- bronchoscopy		2	
<b>male genitalia</b>			
- inspection of penis		4	G
- inspection and palpation of scrotum		4	G
<b>neurological investigations</b>			
- angiography, incl. digital subtraction		1	
- myelography		1	
- CT-scan of cerebrum		2	
- CT-scan of spinal cord		1	
- EEG		2	
- biopsy of muscle		1	
- EMG		2	
- duplex-scan of vessels		1	
- lumbar puncture		2	
- MRI of central nervous system		2	
- X-ray of spine		2	
- visual evoked response examination		1	
<b>neurological therapy</b>			
- surgery of pituitary gland		1	
- shunting procedures		1	
- neurovascular surgery		1	
- opening the skull		1	
- radiation therapy		1	
- interventional neuroradiology		1	
- surgery for intracerebral aneurysm		1	
- surgery for carpal tunnel syndrome		1	
- surgery for subdural haemorrhage		1	
- surgery for extradural haemorrhage		1	
- stereotactic neurosurgery		1	

Internal Medicine	Skills	neurological therapy	
	- surgery for acoustic neuroma	1	
	- therapeutic spinal tap	1	
	- laminectomy	1	
	- surgery for cerebral tumour	1	
<b>others</b>			
	- assessment of fontanelles	1	
<b>perineum</b>			
	- inspection of glove after rectal examination	4	G
	- rectal examination	4	G
	- inspection of perianal area	4	G
<b>spine</b>			
	- assessment of lumbar flexion	4	G
	- inspection at rest	4	G
	- inspection in motion	4	G
	- percussion for tenderness	4	G
	- palpation for tenderness	4	G
	- palpation for pain on vertical pressure (e.g. pressing down on shoulders)	4	G
<b>therapeutic measures</b>			
	- assisted ventilation	2	
	- advice about life-style	3	G
	- prescription of a diet	2	G
	- symptomatic treatment of pain	3	G
	- subcutaneous injection	4	G
	- intramuscular injection	3	G
	- periarticular injection	2	
	- intraarticular injection	2	
	- intravenous cannulation	3	G
	- basic cardiac life support (with simulator)	3	G
	- renal dialysis	1	
	- prescription of physiotherapy	2	
	- prescription of occupational therapy	2	
	- bladder catheter	3	
	- nasogastric tube	3	
	- sclerotherapy for varicose veins	1	

**neurological examination**

- assessment of visual fields by confrontation	3	G
- Romberg's test	4	G
- inspection of gait (normal, on heels, on toes, hopping in one place, heel-to-toe)	4	G
- assessment of strength of individual muscles	2	
- assessment of muscle strength	4	G
- grasp reflex	2	
- assessment of passive stretch	3	G
- inspection: posture, habitus, involuntary movements	4	G
- tongue, inspection at rest	4	G
- assessment of cranial nerves V, VII to XII	3	G
- finger-to-nose test	4	G
- test of visual acuity	3	G
- recovering of balance after a push	3	
- corneal reflex	3	G
- assessment of nystagmus	3	G
- assessment of diplopia	2	
- assessment of extra-ocular movements	4	
- pupillary reaction to close objects	4	G
- pupillary reaction to light	4	G
- inspection of pupils (size and shape)	4	G
- inspection of width of palpebral fissure	3	G
- assessment of sense of smell	2	
- fundoscopy	3	
- assessment of level of consciousness by means of Glasgow coma scale	4	G
- snout reflex	2	
- masseter reflex	2	
- anal reflex	2	
- abdominal reflexes	3	G
- plantar response	4	G
- tendon reflexes (biceps reflex, triceps reflex, knee reflex, ankle reflex)	4	G
- assessment of concentration	3	G
- assessment of memory	3	G
- assessment of agnosia	2	

- assessment of apraxia	2	
- shallow knee bend	4	G
- assessment of orientation	4	G
- heel-to-shin test	3	G
- assessment of light touch	4	G
- testing for dysdiadochokinesis	3	G
- assessment of sense of pain	4	G
- assessment of aphasia	3	G
- assessment of sense of temperature	2	G
- cervical radicular test	3	
- assessment of extinction phenomenon	2	
- assessment of vibration	2	G
- assessment of position sense	3	G
- assessment of discriminative sensations (e.g. stereognosis)	2	
- Lasègue's sign	4	G
- autonomic signs (sweating etc.)	3	G
- signs of meningeal irritation	4	G

## Further Knowledge

### items not covered elsewhere

- demography and epidemiology of ageing (on global, national, and regional level)	1	-	-	-	-	-
- ICDH = international classification of impairment, disability and handicap	1	-	-	-	-	-
- normal late-life changes, including retirement	1	-	-	-	-	G

# Pharmacotherapy

## Further Knowledge

### analgesics

- NSAID incl. Cox2 specific	2	-	-	-	-	-
- opiates (morphine, pethidine, tramadol, codeine)	2	-	-	-	-	-
- paracetamol	2	-	-	-	-	-
- methadone	1	-	-	-	-	-
- aspirin	2	-	-	-	-	-

### antacids

- H2-receptor inhibitors	2	-	-	-	-	-
- magnesium-hydroxide, aluminium-hydroxide	2	-	-	-	-	-
- proton pump inhibitors	2	-	-	-	-	-

### anti-migraine drugs

- ergotamine	1	-	-	-	-	-
- 5 HT1-receptor agonists ("triptanes")	2	-	-	-	-	-

### antiallergic drugs

- non-sedative H1-antagonists	2	-	-	-	-	-
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### antianaemics

- iron sulfate	1	-	-	-	-	-
- folic acid	2	-	-	-	-	-
- erythropoietin	1	-	-	-	-	-
- vitamine B12	2	-	-	-	-	-

### antiasthmatics

- inhaled beta-2 agonists	2	-	-	-	-	-
- inhaled corticosteroids	2	-	-	-	-	-
- theophyllin	1	-	-	-	-	-

### anticoagulants, fibrinolytics, haemostatics

- low-dose aspirin and other platelet inhibitors	2	-	-	-	-	-
- clopidogrel	2	-	-	-	-	-
- streptokinase, tissue-plasminogen-activator	1	-	-	-	-	-

- phytomenadion (vitamine K1)	1	-	-	-	-	-
- protamine sulfate	1	-	-	-	-	-
- coumarine-type oral anticoagulants	2	-	-	-	-	-
- heparin / low-molecular-weight heparin	2	-	-	-	-	-

**antidepressants**

- tricyclic antidepressants	2	-	-	-	-	-
- MAO-inhibitors	1	-	-	-	-	-
- lithium salt	1	-	-	-	-	-
- serotonin-and noradrenalin-uptake-inhibitors	2	-	-	-	-	-

**antidiarrhea agents**

- loperamide	2	-	-	-	-	-
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**antidotes**

- atropine	1	-	-	-	-	-
- naloxone	2	-	-	-	-	-
- desferoxamin	2	-	-	-	-	-
- flumazenil	1	-	-	-	-	-
- N-acetylcysteine	1	-	-	-	-	-
- physostigmin	1	-	-	-	-	-
- activated charcoal	1	-	-	-	-	-
- magnesium sulfate	1	-	-	-	-	-
- obidoxim	1	-	-	-	-	-
- sodium bicarbonate	1	-	-	-	-	-

**antiemetics**

- metoclopramide	2	-	-	-	-	-
- scopolamin	1	-	-	-	-	-
- 5-HT <sub>3</sub> -receptor antagonists	1	-	-	-	-	-
- metoclozine-pyridoxin-coffein	1	-	-	-	-	-

**antiepileptics**

- ethasuximide, lamotrigin, phenobarbital, valproate	1	-	-	-	-	-
- phenytoin	2	-	-	-	-	-
- carbamazepin	2	-	-	-	-	-

**antimycotics**

- ketokonazole	2	-	-	-	-	-
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- amphotericin B 1 - - - - -

### antiparkinson drugs

- levodopa-benserazide 2 - - - - -
- bromocriptin 1 - - - - -
- biperiden (akineton) 1 - - - - -

### antiprotozoal, antihelminthic agents

- albendazol / mebendazol 1 - - - - -
- chloroquine / mefloquine 1 - - - - -
- pyrimethamin-sulfadoxin 1 - - - - -
- metronidazole 2 - - - - -

### antitumor agents and their antidotes

- 5-fluorouracil / mercaptopurine / methotrexate / folinic acid 1 - - - - -
- cisplatinum / cyclophosphamide 1 - - - - -
- vincristine / vinblastine 1 - - - - -

### antitussives and mucolytics

- dextromethorphan 2 - - - - -
- codeine 2 - - - - -
- acetyl-cystein 1 - - - - -

### antiviral agents

- antiretroviral proteainase inhibitors 1 - - - - -
- antiretroviral nucleoside analogues 1 - - - - -
- acyclovir 1 - - - - -

### cardiovascular drugs

- amiodaron 1 - - - - -
- lidocaine 1 - - - - -
- digoxin 2 - - - - -
- ACE-inhibitors 2 - - - - -
- A2-receptor-antagonists (sartans) 2 - - - - -
- Ca-antagonists 2 - - - - -
- beta-blockers 2 - - - - -
- K-sparing diuretics (spironolactone, amilorid) 2 - - - - -
- isosorbid-dinitrate 2 - - - - -



- adrenalin 2 - - - - -
- nitroglycerin 2 - - - - -

**disinfectants**

- chlorhexidin 1 - - - - -
- 70% aethanol 1 - - - - -
- povidone iodine 1 - - - - -

**diuretics**

- loop-diuretics (furosemide) 2 - - - - -
- thiazide diuretics (hydrochlorothiazide) 2 - - - - -

**drug Interactions**

- pharmacodynamic drug interactions 1 - - - - -
- pharmacokinetic drug interactions: induction and inhibition of cytochrome P450 isozymes and drug transporters 1 - - - - -

**drug poisoning and overdose**

- therapeutic principles in acute drug poisoning 2 - - - - -
- most frequent drug poisonings 1 - - - - -

**drugs against substance abuse**

- clomethiazol 1 - - - - -
- nicotine 1 - - - - -
- disulfiram 1 - - - - -

**frequent adverse drug reactions (ADRs)**

- poor and non-responders to drug therapy, including non-compliance 2 - - - - -
- allergic, pseudoallergic and idiosyncratic ADRs 1 - - - - -
- dose-dependent ADRs 1 - - - - -

**hormones and metabolic drugs**

- levothyroxin 2 - - - - -
- corticosteroids (cortisone, prednisone) 2 - - - - -
- fludrocortisone 1 - - - - -
- thiourea antithyroid drugs (e.g. methimazol) 1 - - - - -
- oestrogen/gestagen oral contraceptives 2 - - - - -
- oestradiol 1 - - - - -
- insulin 2 - - - - -

- oral antidiabetics	2	-	-	-	-	-
- allopurinol	2	-	-	-	-	-
- lipid-lowering drugs: HMG-CoA-reductase-inhibitors, fibrates	2	-	-	-	-	-
- glucagon	1	-	-	-	-	-
- biphosphonates	2	-	-	-	-	-

### immunological drugs

- interferon	1	-	-	-	-	-
- cyclosporine	1	-	-	-	-	-
- azathioprin	1	-	-	-	-	-

### individualization of drug therapy

- drug therapy in the elderly	1	-	-	-	-	-
- drug therapy in pregnancy and lactation, principles of classification of drugs in pregnancy	1	-	-	-	-	-
- drug therapy in newborns and children	1	-	-	-	-	-
- pharmacogenetic polymorphisms	1	-	-	-	-	-

### infusions

- expander and electrolytes	1	-	-	-	-	-
- glucose	1	-	-	-	-	-
- Ringer	1	-	-	-	-	-
- NaCl	1	-	-	-	-	-

### laxatives

- lactulose / lactitol	2	-	-	-	-	-
- psyllium	1	-	-	-	-	-
- senna glycosides	1	-	-	-	-	-
- bisacodyl	1	-	-	-	-	-

### minerals

- potassium salts	1	-	-	-	-	-
- magnesium salts	1	-	-	-	-	-
- calcium salts	1	-	-	-	-	-

### neuroleptics

- atypical neuroleptic drugs	1	-	-	-	-	-
- phenothiazines	1	-	-	-	-	-
- butyrophenones	1	-	-	-	-	-

**other antibiotics**

- vancomycin	1	-	-	-	-	-
- aminoglycosides	1	-	-	-	-	-
- doxycycline	2	-	-	-	-	-
- macrolides	2	-	-	-	-	-
- chinolone antibiotics	2	-	-	-	-	-
- trimethoprim-sulfamethoxazole (cotrimoxazol)	2	-	-	-	-	-

**parasympathomimetica**

- parasympathomimetics and cholesterinase inhibitors	1	-	-	-	-	-
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**penicillins and cephalosporins**

- amoxicillin-clavulanic acid	2	-	-	-	-	-
- penicillin G / penicillin V	2	-	-	-	-	-
- ceftriaxon	2	-	-	-	-	-

**pharmakokinetics**

- drug dosing in liver disease	1	-	-	-	-	-
- therapeutic drug monitoring	1	-	-	-	-	-
- drug dosing in renal insufficiency	1	-	-	-	-	-
- basic concepts and definitions (bioavailability, metabolism and excretion, Q <sub>o</sub> , V <sub>d</sub> , T <sub>1/2</sub> , clearance, steady-state, drug accumulation)	2	-	-	-	-	-

**sedatives and antianxiety drugs**

- benzodiazepines	2	-	-	-	-	-
- chloral hydrate	1	-	-	-	-	-

**tuberculostatic agents**

- rifampicin	1	-	-	-	-	-
- isoniazide	1	-	-	-	-	-
- pyrazinamide	1	-	-	-	-	-

**various topics**

- drugs in clinical trials	1	-	-	-	-	-
- drug prescription and regulatory authorities	2	-	-	-	-	-
- substances of abuse	2	-	-	-	-	-

**vitamines**

- vitamine A/E	1	-	-	-	-	-
- vitamine C	1	-	-	-	-	-
- vitamine B6	1	-	-	-	-	-
- vitamine B1	1	-	-	-	-	-
- vitamine D3 and cholecalciferol	2	-	-	-	-	-

# Surgery

## Clinical Picture

### abdominal wall and hernias

- hernia of linea alba	2	D	-	-	-	-
- incarcerated hernias	2	D	-	E	-	-
- diastasis of rectus abdominis muscle	2	D	-	-	-	-
- abdominal apron	2	D	-	-	P	-
- incisional hernia	2	D	-	-	-	-
- epigastric hernia	2	D	-	-	-	-
- umbilical hernia	2	D	-	-	-	-
- femoral hernia	2	-	-	-	-	-
- inguinal hernia	2	-	-	-	-	G

### acute abdomen

- ileus (proximal, distal)	2	-	-	E	-	-
- adhaesions	1	-	-	-	-	-
- diverticulitis	2	-	-	-	-	-
- mesenteric lymphadenitis	1	-	-	-	-	-
- acute appendicitis	2	D	-	E	-	-
- salpingitis	2	-	-	-	-	-
- invagination	1	-	-	-	-	-
- perforation	2	-	-	E	-	-
- Douglas` abscess	1	-	-	-	-	-
- mesenteric infarction	1	-	-	-	-	-
- subphrenic abscess	1	-	-	-	-	-
- acute abdomen	2	D	-	E	-	G
- peritonitis	2	D	-	E	-	-
- volvulus of small intestine, congenital malrotation	1	-	-	-	-	-

### arteries

- aneurysm of abdominal aorta	2	-	-	-	-	-
- haemangioma	1	-	-	-	-	-
- open and closed traumatic vascular lesions	1	-	-	-	-	-
- rupture of aorta	1	-	-	-	-	-

Surgery	Clinical Picture	arteries
- subclavian steal syndrome		2 D - - - -
- thoracic outlet syndrome		2 D - - - -
- B�rger's disease		1 - - - - -
- aneurysm of thoracic aorta		2 D - - - -
- renal artery stenosis and consequences		2 - - - - -
- occlusion/stenosis of distal arteries of lower extremities		2 D - - - G
- occlusion/stenosis in aorto-iliacal region		2 D - - - -
- occlusion/stenosis in femoro-popliteal region		2 D - - - G
- acute arterial occlusion		2 D - E - -
- Raynaud phenomenon		2 D - - - -
- cerebrovascular ischemia (in particular extracranial obstruction)		2 - - - - G

### brain and peripheral nerves (neurosurgery)

- neurosurgically relevant brain trauma (epidural, subdural and intracerebral haematoma, contusions, etc.)		2 D - E - -
- hydrocephalus and malformations		1 - - - - -
- elevated intracranial pressure (acute, chronic)		2 D - E - -
- benign and malignant brain tumors		2 - - - - -
- neurosurgically relevant stroke/cerebral ischemia		2 D - E P -
- arteriovenous malformations and other angioma		1 - - - - -
- neurosurgically relevant infection		1 - - - - -
- neurosurgically relevant subarachnoidal and intracerebral haemorrhage		2 D - E - -

### breast

- malignant tumors		2 - - - - -
- benign cysts and tumors		2 - - - - -
- gynaecomastia		2 D - - - -
- mastopathy		2 - - - - G
- mastitis		2 D - - - -
- asymmetries and anomalies of breast		1 - - - - -

### chest

- sternum fractures		1 - - - - -
- fractures and contusions of ribs		2 D T E - G
- funnel chest, chicken breast		1 - - - - -
- injuries from fractured ribs, flail chest		2 D - E - -
- pneumothorax		2 D - E - -

## Surgery

## Clinical Picture

## chest

- haemothorax 2 - - - - -

**colon**

- necrotising enterocolitis 1 - - - - -  
 - diverticulosis/diverticulitis 2 - - - P -  
 - colonic carcinoma 2 - - - P G  
 - ulcerative colitis 2 - - - - -  
 - Hirschsprung`s disease 2 - - - - -  
 - pseudomembraneous colitis 2 - - - - -  
 - Crohn`s disease 2 - - - - -  
 - perforating abdominal trauma 2 D - E - -  
 - polyps (adenomas, familial polyposis) 2 - - - P -

**diaphragm**

- hiatal hernia 2 - - - - G  
 - rupture of diaphragm 1 - - - - -  
 - hernia of diaphragm 1 - - - - -

**endocrinology (if not mentioned elsewhere)**

- primary hyperaldosteronism (Conn's syndrome) 1 - - - - -  
 - endocrine pancreatic tumors 1 - - - - -  
 - pheochromocytoma 1 - - - - -  
 - pituitary tumor 1 - - - - -  
 - Cushing's syndrome 2 - - - - -

**gallbladder/gall ducts**

- carcinoma of gallbladder/bile ducts 1 - - - - -  
 - strictures of bile ducts 2 - - - - -  
 - chole(docho)lithiasis 2 - - - - -  
 - hydrops of gallbladder 1 - - - - -  
 - injury to bile ducts 1 - - - - -  
 - atresia of bile ducts 1 - - - - -  
 - gallstone ileus 1 - - - - -  
 - bile fistula (internal, external) 1 - - - - -  
 - acute cholecystitis 2 D - - - - -  
 - gallbladder empyema 1 - - - - -

**heart**

- valvular heart disease	2	-	T	-	-	-
- acute aortic dissection	2	-	-	-	-	-
- cardiac contusion	1	-	-	-	-	-
- cardiac tamponade	1	-	-	-	-	-

**inflammation and infection**

- gas gangrene	2	D	-	E	P	-
- animal bites	2	D	-	-	-	-
- surgical infections	2	-	-	-	-	-
- tetanus	2	D	-	E	P	-
- fasciitis	2	D	-	-	-	-
- gangrene	2	D	-	-	-	-

**jejunum, ileum**

- malrotation	1	-	-	-	-	-
- benign and malignant tumors	1	-	-	-	-	-
- Meckels Diverticulum	1	-	-	-	-	-
- intestinal atresia	1	-	-	-	-	-
- carcinoid syndrome	1	-	-	-	-	-

**kidneys, urinary tract and prostate**

- urothelial tumors	2	-	-	-	-	-
- congenital malformations of kidneys, ureter and urethra	1	-	-	-	-	-
- vesicourethral reflux	2	-	-	-	-	-
- pyelonephritis, acute, chronic, pyelonephrosis	2	D	T	E	-	G
- cystitis	2	D	T	-	-	G
- urethritis	2	D	T	-	-	-
- urolithiasis/renal colic	2	D	-	E	-	-
- Wilms tumor	1	-	-	-	-	-
- renal cell carcinoma	2	-	-	-	-	-
- benign prostatic hyperplasia	2	D	-	-	-	G
- carcinoma of the prostate	2	-	-	-	-	G
- prostatitis	2	D	T	-	-	-
- urinary retention	2	D	T	E	-	-
- urinary incontinence	2	D	-	-	-	G
- lesions of kidney and distal urinary tract (traumatic)	1	-	-	-	-	-



**liver**

- secondary liver tumor (metastases)	2	-	-	-	-	-
- cirrhosis of the liver	2	D	-	-	P	G
- primary liver tumor	1	-	-	-	-	-
- echinococcus cyst	1	-	-	-	-	-
- portal hypertension	2	D	-	-	-	-
- liver injury	2	-	-	E	-	-
- amoebic liver abscess	1	-	-	-	-	-

**localized disturbances of muscle and bone**

- epiphyseal instability, epiphysiolysis	1	-	-	-	-	-
- lesion of articular cartilage	1	-	-	-	-	G
- acute osteomyelitis	1	-	-	-	-	-
- pathological fracture	2	-	-	-	-	-
- lesion of joint capsule	1	-	-	-	-	G
- ganglion	2	D	-	-	-	G
- primary bone tumors	1	-	-	-	-	-
- bone metastases	1	-	-	-	-	-
- aseptic necrosis of bone	1	-	-	-	-	-

**lung**

- lung tumors	2	-	-	-	P	-
- mediastinal tumors	1	-	-	-	-	-
- respiratory distress syndrome	1	-	-	-	-	-
- aspiration pneumonia	2	D	-	-	P	-
- lung contusion	1	-	-	-	-	-

**lymphatic vessels**

- acute lymphangitis and lymphadenitis	2	D	T	-	-	-
- chronic lymphadenitis	2	-	-	-	-	-
- lymphangioma	1	-	-	-	-	-
- primary and secondary lymphoedema	2	-	-	-	-	-

**male genitals**

- spermatocele, hydrocoele	2	D	-	-	-	-
- pelvic traumatism, urethral injury	1	-	-	-	-	-
- lesion of testicle and scrotal content (traumatic)	2	D	-	-	-	-

## Surgery

## Clinical Picture

## male genitals

- erectile dysfunction	2	-	-	-	-	-
- infertility	2	-	-	-	-	-
- testicular cancer	2	-	-	-	-	-
- varicocele	2	-	-	-	-	-
- epididymitis, orchitis	2	-	-	-	-	-
- torsion of testicle	2	D	-	E	-	-
- epispadia	2	D	-	-	-	-
- hypospasia	2	D	-	-	-	-
- undescended testicle (cryptorchidism)	2	D	-	-	-	-
- phimosis, paraphimosis	2	D	-	E	-	-

**neck**

- torticollis	2	D	T	-	-	G
- midline and lateral branchial cysts and fistulas	1	-	-	-	-	-

**neck, shouder girdle and upper extremities**

- Dupuytren's contracture	2	D	-	-	-	-
- fractures and lesions of capsule, tendons and ligaments of wrist	2	-	-	E	-	-
- panaris	2	D	-	E	-	-
- subungual melanoma	1	-	-	-	-	-
- bursitis of olecranon	2	D	-	E	-	G
- loss of finger nail	2	D	-	-	-	-
- mallet finger	2	D	-	-	-	-
- lesion of finger tendons, e.g. button hole deformity	2	D	-	-	-	-
- lateral epicondylitis (Tennis elbow)	2	D	-	-	-	G
- Carpal tunnel-Syndrome	2	D	-	-	-	G
- fractures and lesions of capsule, tendons and ligaments of fingers and thumb	2	D	-	E	-	-
- subungual haematoma	2	D	T	-	-	G
- fracture of clavicle	2	D	T	E	-	-
- fractures and lesions of capsule, tendons and ligaments of elbow	1	-	-	-	-	-
- fracture of humerus	2	D	-	E	-	-
- Frozen shoulder	1	-	-	-	-	-
- lesions of shoulder ligament	1	-	-	-	-	-
- luxations of shoulder	2	D	-	E	-	-
- phlegmon of flexor tendon	1	-	-	-	-	-
- fractures of shoulder	2	D	-	E	-	-

- fractures of radius and ulna 2 D - E - G

### oesophagus

- corrosive lesion (acid, base, stenosis) 2 D - E - -  
 - diverticulum 1 - - - - -  
 - oesophageal rupture 1 - - - - -  
 - oesophageal varices 2 - - - - -  
 - achalasia 1 - - - - -  
 - oesophageal atresia 1 - - - - -  
 - malignant tumors 2 - - - - -

### pancreas

- chronic pancreatitis incl. pseudocysts 2 - - - P -  
 - pancreatic carcinoma 2 - - - - -  
 - annular pancreas 1 - - - - -  
 - acute pancreatitis 2 D - E - -

### pelvis and lower extremities

- inflammation of Achilles tendon 2 D T - - -  
 - club foot 1 - - - - -  
 - fractures, lesions of capsule, tendons and ligaments of ankle 2 - - E - G  
 - rupture of Achilles tendon 2 D - - - -  
 - tarsal tunnel syndrome 1 - - - - -  
 - fractures of hip 2 - - - - G  
 - instability of ankle 2 D - - - -  
 - pes planus 2 D - - - G  
 - arthritis of hip 2 D - - - G  
 - fractures of femur 2 D - E - -  
 - fractures, lesions of capsule, tendons and ligaments of knee 2 D - E - G  
 - lesions of medial and lateral meniscus 2 D - - - G  
 - abnormal patellary cartilage 2 - - - - G  
 - genu varum, genu valgum 2 D - - - -  
 - osteochondritis dissecans 1 - - - - -  
 - fractures of pelvis 1 - - - - -  
 - gonarthrits 2 - - - - -  
 - ingrown toenail 2 D - - - G  
 - dislocation of patella 2 D - E - -

- prepatellar bursitis	2	D	T	-	-	-
- marching fracture	1	-	-	-	-	-
- claw foot	1	-	-	-	-	-
- hammer toe	2	D	-	-	-	G
- congenital dysplasia of hip, congenital dislocation of hip	2	-	-	-	-	-
- fractures of toes	2	D	-	-	-	-
- necrosis of femoral head	1	-	-	-	-	-
- Osgood-Schlatter disease	1	-	-	-	-	-
- Perthes' disease	1	-	-	-	-	-
- fractures of fibula	2	D	-	E	-	-
- fractures of tibia	2	D	-	E	-	-
- Hallux valgus	2	D	-	-	-	G

### rectum and anus

- anal atresia	1	-	-	-	-	-
- rectal and anal prolaps	2	D	-	E	-	-
- rectal cancer	2	-	-	-	-	-
- condylomata	2	D	-	-	-	-
- anal fissure	2	D	-	-	-	-
- fistulas	2	D	-	-	-	-
- (peri)anal abscess	2	-	-	-	-	-
- haemorrhoids	2	D	T	-	-	G
- proctitis	2	-	-	-	-	-

### skin and soft tissues

- compartment syndrome	2	-	-	E	-	-
- radiation ulcer	1	-	-	-	-	-
- diabetic foot ulcer	2	D	-	-	-	-
- arterial and venous ulcers	2	D	-	-	-	G
- furuncle	2	D	T	-	-	-
- carbuncle	2	D	-	-	-	-
- paronychia	2	D	T	-	-	-
- inflammation of tendon sheath	1	-	-	-	-	-
- pilonidal sinus	1	-	-	-	-	-
- soft tissue sarcoma	1	-	-	-	-	-
- trauma to soft tissue	2	D	T	-	-	G
- crush syndrome	1	-	-	-	-	-

- haematoma	2	D	T	-	-	G
- decubital ulcer	2	D	-	-	P	-
- burns	2	D	-	E	-	-
- keloid	2	D	-	-	-	-

**skull, face, mouth, jaw**

- broken and fractured tooth	2	D	-	-	-	-
- oropharyngeal tumors	2	-	-	-	-	-
- facial palsies	2	-	-	-	-	-
- Le Fort fracture I,II,III	1	-	-	-	-	-
- fracture of jaw	2	D	-	-	-	-
- fractures of middle third, not interfering with occlusion (fracture of mid-face, fracture of zygomatic bone, isolated fracture of orbit)	1	-	-	-	-	-
- trismus,restrictions in opening of mouth	2	D	-	E	-	-
- sialolithiasis	1	-	-	-	-	-
- odontogenic maxillary sinusitis	1	-	-	-	-	-
- odontogenic fistula to skin	1	-	-	-	-	-
- disturbances with wisdom teeth	1	-	-	-	-	-
- odontogenic abscess	2	D	-	-	-	-
- short lip frenulum	1	-	-	-	-	-
- postcontusional syndromes	1	-	-	-	-	-
- luxation of jaw	2	D	-	-	-	-
- gingivitis, periodontitis	2	D	-	-	-	G
- jaw and face emergencies, vital risks, obstruction of upper airways, haemorrhages	2	D	-	E	-	-
- trauma to brain and face	2	D	-	E	-	-
- face injury	1	-	-	-	-	-
- cleft lip, jaw, palate	1	-	-	-	-	-
- micro- and macrognathia	1	-	-	-	-	-
- leukoplakia	2	D	-	-	-	-
- candidiasis	2	D	T	-	P	-
- dental caries	2	D	-	-	P	G
- glossitis	2	D	-	-	-	-
- disturbances of consciousness, Glasgow-Coma Scale	2	D	-	E	-	-

**spine**

- spina bifida	1	-	-	-	-	-
- spinal tumors	1	-	-	-	-	-

Surgery	Clinical Picture	spine
- spondylitis, spondylodiscitis		2 - - - - -
- teratoma of sacral region		1 - - - - -
- Scheuermann's disease (juvenile kyphosis)		2 - - - - G
- scoliosis, kyphosis, lordosis		2 D - - - G
- spondylarthrosis, spondylosis		2 - - - - G
- intervertebral disc hernia		2 - - E - G
- spondylolisthesis		1 - - - - -
- spondylolysis		1 - - - - -
- fractures and dislocations of the spine		2 - - E - -
- spinal canal stenosis		1 - - - - -
- Whiplash injury		2 - - E - -
- transverse lesion of spinal cord		2 - - E - -
<b>spleen</b>		
- rupture, subcapsular haemorrhage		2 D - E - -
- splenomegaly and "haematologic" spleen		2 D - - - -
<b>stomach and duodenum</b>		
- gastric dilatation		2 D - E - -
- gastric tumors		2 - - - - -
- Zollinger-Ellison syndrome		1 - - - - -
- gastrointestinal haemorrhage		2 D - E - -
- (perforated) gastric/duodenal ulcer		2 - - E - -
- duodenal atresia		1 - - - - -
- Mallory-Weiss syndrome		1 - - - - -
- postgastrectomy syndrome (complications)		2 - - - - -
- foreign body		2 - - - - -
- hypertrophy, stenosis of pylorus		2 - - - - -
<b>thyroid and parathyroids</b>		
- multiple endocrin neoplasia syndrome		1 - - - - -
- hypoparathyroidism		1 - - - - -
- hyperparathyroidism		1 - - - - -
- hyperthyroidism		2 D - - - -
- goitre		2 D - - P -
- cysts		1 - - - - -
- benign and malignant thyroid tumors		1 - - - - -

**trachea, bronchi**

- aspiration	2	D	-	E	P	-
- foreign body	2	-	-	-	-	-

**veins**

- caval vein syndromes	2	D	-	E	-	-
- varicous veins (primary, secondary)	2	D	-	-	-	G
- deep vein thrombosis	2	D	T	-	P	G

**wound- and fracture healing**

- reflex sympathetic (Sudeck's)dystrophy	2	-	-	-	-	-
- polytraumatism	2	D	-	E	-	-
- pseudoarthrosis	2	D	-	-	-	-
- incisional hernia	2	D	-	-	-	-
- wound dressing, types of bandages, indications for dressings	2	-	-	-	-	G
- wound abscess	2	D	-	-	-	-
- wound characteristics	2	D	-	-	-	G

**Skills****accidents and emergencies**

- first aid	3					G
- stopping haemorrhage (direct pressure, pressure point, pressure bandage)	3					G
- principles of advanced cardiac life support (basic cardiac rhythm algorithms)	1					
- intubation	2					
- basic life support: assessment, breathing, circulation, defibrillation until arrival of professional emergency medical personnel (simulator)	3					G
- application of bandage	3					G
- Heimlich manoeuvre	3					G
- transport of casualty	3					
- assessment and care of external injuries (wounds, bleeding, burns, distorsion, dislocation, fractures)	3					G

**additional examinations and techniques**

- micturating cystography	2					
- Doppler occlusion pressure	2					
- mammography	1					

Surgery	Skills	additional examinations and techniques	
	- diagnostic proceeding with acute abdomen	3	G
	- endoscopy	2	
	- biopsy	2	
	- urodynamic examination	2	

### general examination

- spine standing and supine (scoliosis, kyphosis, lateral tilt, Schober, position-dependent pain, paravertebral)	3	G
- patient history including form third party (personal, family, social history)	4	G
- asymmetries of body (muscle relief, muscle atrophy, elevated shoulder, tilted pelvis, etc.)	3	G
- posture, bodybuild (upright, stooping, athletic)	3	G
- general state (basic mood, development, posture)	4	G
- feet on standing (pes planus, pes valgus, etc.)	3	G
- neurological physical examination	4	G
- chest, thoracic spine (tenderness on compression and/or percussion)	3	G
- rectal examination including palpation	4	G
- general physical examination (inspection, percussion, auscultation, palpation, measurements)	4	G
- head, cervical spine (mobility, pain)	3	G
- gait (limp, pareses, etc.)	3	G
- transillumination of scrotum	3	G
- palpation of penis, testes, epididymidis, spermatic duct	3	G
- shoulder girdle with scapula, clavicle, acromioclavicular, sternoclavicular shoulder articulation including relevant muscles (tenderness, function, motility, etc.)	3	G
- upper extremities, elbow, wrist, finger joints and relevant structures and muscles: function, motility, shape, tenderness, etc.	3	G
- breast examination (inspection, palpation)	4	G
- palpation of hernia	3	G
- axes of legs on standing (genu valgum, genu varum)	3	G
- iliosacral joints, pelvis including muscles: motility, pain, atrophies	3	G
- lower extremities: knee, ankle, and relevant structures and muscles: motility, pain, stability, swelling, meniscus signs, position of patella, function, relief	3	G
- inspection of groin during increased abdominal pressure	3	G

### minor interventions

- nasogastric tube	2	
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Surgery	Skills	minor interventions	
	- urethral catheterization in male	3	
	- nail removal	2	
	- nail bed cauterisation	2	
	- urethral catheterization in female	3	
	- suprapubic catheter: changing, rinsing	2	
	- colostomy, changing the bag	2	
	- enema	2	
	- injection of varices sclerosant	2	
	- venous cannulation	3	G
	- application of a sling	3	G
	- attending oncological patients regarding social and psychological issues	2	
	- wound stitching	3	
	- administration of analgesics	3	G
	- lumbar puncture	2	
	- reduction of joint dislocation	2	
	- wound care for minor burns	3	
	- nerve block	2	
	- incision and drainage of abscess	2	
	- wound cleaning	3	G
	- wound debridement with scalpel and scissors	2	
	- removal of wound sutures	3	G
	- repositioning of closed fracture	2	
	- stabilisation of fracture (without plaster)	2	
	- infiltration anaesthesia	3	

### **perioperative and postoperative proceedings**

	- contraindications (risk factors, ethical and legal)	2	G
	- assessment of operability (assessment of important vital functions)	2	G
	- information of patient	3	G
	- pre-operative preparation of operative field for minor surgery, asepsis and antisepsis, local anaesthesia	2	
	- establishing indication (diagnosis, risks, prognosis)	2	G
	- preparation to watch/ to assist in theatre (scrub-up, gown up, put on steril gloves, etc.)	3	
	- attendance in theatre at various operations	4	

**special examination**

- capillary refill	3									G
- urethral swab	2									
- Trendelenburg test and Perthes test for varicose veins	3									G
- test for arterial insufficiency (Ratschow test)	3									G
- assessment of consciousness by means of Glasgow Coma Scale	3									G
- primary and secondary assessment of patients with medical emergencies and after trauma	2									G
- ascertainment of death and filing of death certificate	2									G

**Further Knowledge****anaesthesiology**

- procedures for general anaesthesia	1	-	-	-	-	-	-	-	-	-
- preoperative risk assessment	1	-	-	-	-	-	-	-	-	G
- anaesthetics (by inhalation or injection), mechanism of action of anaesthetics, induction of anaesthesia, opiates, opiate-antagonists, muscle relaxants	2	-	-	-	-	-	-	-	-	-
- non-invasive and invasive monitoring	1	-	-	-	-	-	-	-	-	-
- risks and complications	2	D	T	E	P	-	-	-	-	-
- fluid, volume, and blood replacement, treatment of	2	-	-	-	-	-	-	-	-	-
- postoperative phase including analgesia	2	-	-	-	-	-	-	-	-	-
- preparation of patient for anaesthesia	1	-	-	-	-	-	-	-	-	-
- preoperative medication	1	-	-	-	-	-	-	-	-	-

**disaster medicine, mass disaster**

- medical risks in disasters	1	-	-	-	-	-	-	-	-	-
- special traumatic patterns (avalanches, landslide, earthquake, floods, fire disaster, frost bite, crush injury)	1	-	-	-	-	-	-	-	-	-
- epidemiological disaster due to infections	1	-	-	-	-	-	-	-	-	-
- cold injuries in disaster situations	1	-	-	-	-	-	-	-	-	-
- splints in disaster situations	1	-	-	-	-	-	-	-	-	-
- psychiatric and psychological aspects in disaster situations	1	-	-	-	-	-	-	-	-	-
- principles of triage	1	-	-	-	-	-	-	-	-	-
- mass intoxications	1	-	-	-	-	-	-	-	-	-
- chemical accident	1	-	-	-	-	-	-	-	-	-
- nuclear accident	1	-	-	-	-	-	-	-	-	-
- traffic mass disaster (road,rail, air)	1	-	-	-	-	-	-	-	-	-

- analgesia in disaster situations	1	-	-	-	-	-
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**items not covered elsewhere**

- knowledge of basic first aid	2	-	-	E	-	G
- basic knowledge of instruments	1	-	-	-	-	-

**pre-, peri- and postoperative care**

- post-operative care	1	-	-	-	-	G
- pre-operative care	1	-	-	-	-	G
- intensive care	1	-	-	-	-	-
- complications	1	-	-	-	-	-
- rehabilitation	1	-	-	-	-	-

**transplantation**

- autograft, isograft, allograft and xenograft transplantation	1	-	-	-	-	-
- complications: graft rejection, infection	1	-	-	-	-	-
- organ transplantations (selections of donors and patients, principles of transplantation)	1	-	-	-	-	-

# Paediatrics

## Clinical Picture

### accidents, poisonings, emergencies

- dental trauma	2	D	-	E	-	-
- fever	2	D	T	E	-	G
- breath-holding spells	1	-	-	-	-	-
- sudden infant death syndrome	1	-	-	-	-	-
- acute abdomen	2	D	-	-	-	G
- intussusception of bowel	1	-	-	-	-	-
- febrile seizures	2	D	T	E	P	-
- ALTE (acute life threatening event)	2	D	-	E	-	-
- testicular torsion	2	D	-	-	-	-
- epiglottitis	2	D	-	E	P	-
- meningitis	2	D	-	E	P	-
- shock, septic shock, septicemias	2	D	-	E	-	-
- pain	2	D	T	E	-	G
- nurse maid's elbow	1	-	-	-	-	-
- accidental ingestion or inhalation	2	D	-	E	-	-
- coma	2	D	-	E	-	-
- foreign body aspiration	2	D	-	E	P	-

### cardiovascular disorders

- ventricular septal defect	1	-	-	-	-	-
- congenital complete heart block	1	-	-	-	-	-
- supraventricular tachycardia	1	-	-	-	-	-
- innocent heart murmur	2	-	-	-	-	G
- rheumatic fever	2	-	-	-	P	-
- cardiomyopathy	1	-	-	-	-	-
- tetralogy or pentalogy of Fallot	1	-	-	-	-	-
- hypertension	2	D	-	-	-	-
- atrial septal defect	1	-	-	-	-	-
- aortic stenosis or coarctation of aorta	1	-	-	-	-	-
- pulmonary stenosis	1	-	-	-	-	-
- persistent ductus arteriosus	1	-	-	-	-	-

- transposition of great arteries 1 - - - - -

### diseases and malformations of kidneys and urinary tract

- phimosis 2 D - - - G  
 - imperforate hymen 1 - - - - -  
 - cystinuria 1 - - - - -  
 - adhesions of labia 1 - - - - -  
 - urinary lithiasis 1 - - - - -  
 - urethral valves 1 - - - - -  
 - vesicourethral reflux 1 - - - - -  
 - megaureter 1 - - - - -  
 - hydronephrosis 1 - - - - -  
 - primary and secondary enuresis 1 - - - - -  
 - acute and chronic renal failure 1 - - - - -  
 - Fanconi syndrome 1 - - - - -  
 - Potter syndrome 1 - - - - -  
 - polycystic kidney 1 - - - - -  
 - glomerulonephritis 1 - - - - -  
 - haemolytic uraemic syndrome 1 - - - - -  
 - nephrotic syndrome 2 - - - - -

### diseases of the endocrine organs

- adrenal insufficiency 1 - - - - -  
 - Cushing's syndrome or hypercortisolism 1 - - - - -  
 - adrenogenital syndrome 1 - - - - -  
 - cryptorchidism 1 - - - - G  
 - hyperthyroidism 1 - - - - -  
 - hypothyroidism 1 - - - - -  
 - diabetes 2 D - E - -  
 - diabetes insipidus 1 - - - - -  
 - pituitary failure 1 - - - - -

### gastrointestinal disorders

- gastrooesophageal reflux 1 - - - - -  
 - biliary atresia or hypoplasia 1 - - - - -  
 - milk protein intolerance 1 - - - - -  
 - coeliac disease 2 - - - - -  
 - anal fissures 1 - - - - -

- Meckel's diverticulum	1	-	-	-	-	-
- inguinal hernia	2	D	-	E	-	G
- hiatus hernia	1	-	-	-	-	-
- Hirschsprung's disease	1	-	-	-	-	-
- constipation	2	-	-	-	-	-
- pyloric stenosis	1	-	-	-	-	-

### growth and pubertal disturbances

- gynaecomastia	1	-	-	-	-	G
- tall stature	2	D	-	-	-	-
- short stature	2	D	-	-	-	-
- Turner syndrome	1	-	-	-	-	-
- Klinefelter syndrome	1	-	-	-	-	-
- Marfan syndrome	1	-	-	-	-	-
- failure to thrive	2	D	-	-	-	G
- obesity	2	D	-	-	P	G
- premature thelarche and pubarche	1	-	-	-	-	-
- dysfunction of menstrual cycle in adolescence	1	-	-	-	-	-
- delayed puberty	1	-	-	-	-	-
- precocious puberty	1	-	-	-	-	-

### haemato-oncologic disorders

- neuroblastoma	1	-	-	-	-	-
- rhabdomyosarcoma	1	-	-	-	-	-
- nephroblastoma	1	-	-	-	-	-
- lymphomas	2	-	-	-	-	-
- acute leukaemia, myeloblastic, lymphoblastic	2	-	-	-	-	-
- chronic granulomatous disease	1	-	-	-	-	-
- idiopathic thrombocytopenic purpura	1	-	-	-	-	-
- haemoglobinopathies	1	-	-	-	-	-
- iron deficiency anaemia	2	D	T	-	-	G
- aplastic anaemia	1	-	-	-	-	-

### immunological and allergic disorders

- insect allergy	2	D	-	E	P	G
- hypogammaglobulinaemia	1	-	-	-	-	-
- Wiskott-Aldrich syndrome	1	-	-	-	-	-
- agammaglobulinaemia	1	-	-	-	-	-

- food allergy	1	-	-	-	-	-
- Di-George syndrome	1	-	-	-	-	-
- Kawasaki syndrome	1	-	-	-	-	-
- AIDS	1	-	-	-	-	-
- allergic rhino-conjunctivitis	2	D	T	-	P	-
- Henoch-Schönlein purpura	1	-	-	-	-	-
- lupus erythematosus	1	-	-	-	-	-
- juvenile chronic arthritis	1	-	-	-	-	-
- severe combined immunodeficiency	1	-	-	-	-	-

### infectious diseases

- conjunctivitis	2	D	T	-	P	G
- otitis media, otitis externa, mastoiditis	2	-	-	E	-	G
- impetigo	2	D	T	-	P	-
- upper respiratory tract infections	2	-	-	-	-	G
- immunizations recommended by Swiss Federal Office of Public Health (BAG)	2	-	-	-	P	G
- sinusitis	2	-	-	-	-	G
- gingivo-stomatitis	2	D	-	-	-	-
- meningococcaemia	2	-	-	E	P	-
- community acquired pneumonia	2	D	-	E	-	G
- gastroenteritis, colitis, enterocolitis	2	D	-	E	-	G
- urinary tract infections	2	D	-	E	-	G
- vulvovaginitis, balanitis	2	D	T	-	-	-
- orchitis, oophoritis, epididymitis	1	-	-	-	-	-
- arthritis, septic / reactive	1	-	-	-	-	-
- brain abscess	1	-	-	-	-	-
- measles	2	D	-	-	P	-
- rubella	2	D	-	-	P	-
- varicella, herpes zoster	2	D	T	-	P	-
- exanthema subitum (roseola)	1	-	-	-	-	-
- lymphadenitis	2	-	-	-	-	-
- scarlet fever	2	D	T	-	-	-
- cellulitis, periorbital cellulitis	2	D	-	E	-	-
- occult bacteraemia	1	-	-	-	-	-
- mumps	2	D	-	-	P	-
- mononucleosis infections	2	-	-	-	-	-

## Paediatrics

## Clinical Picture

## infectious diseases

- whooping cough	1	-	-	-	-	-
- diphtheria	1	-	-	-	-	-
- tetanus	1	-	-	-	-	-
- poliomyelitis	1	-	-	-	-	-
- bacterial tracheitis	1	-	-	-	-	-
- viral croup	2	D	T	E	-	G
- peritonsillar and retropharyngeal abscess	2	D	-	E	-	-
- bronchiolitis	2	D	-	E	-	G
- erythema infectiosum	1	-	-	-	-	-

**metabolic disorders**

- hypoglycaemia	2	D	T	E	-	-
- hyperglycaemia	2	D	T	-	-	-
- rickets	2	D	T	-	P	-
- mucopolysaccharidoses	1	-	-	-	-	-
- glycogen storage disease	1	-	-	-	-	-
- dehydration	2	D	T	E	-	-
- hypocalcaemia	1	-	-	-	-	-
- hypercalcaemia	1	-	-	-	-	-

**neonatology**

- pneumothorax	1	-	-	-	-	-
- myelomeningocele	1	-	-	-	P	-
- congenital dislocation of the hip	1	-	-	-	-	-
- apnoea	2	D	-	E	-	-
- meconium aspiration	1	-	-	-	-	-
- perinatal asphyxia	2	D	-	E	-	-
- common birth injuries	1	-	-	-	-	-
- congenital torticollis	1	-	-	-	-	-
- club foot	1	-	-	-	-	-
- hypospadias	1	-	-	-	-	-
- hyaline membrane disease	1	-	-	-	-	-
- ambiguous genitalia	1	-	-	-	-	-
- neonatal pneumonia	1	-	-	-	-	-
- cleft palate and lip	1	-	-	-	-	-
- postmaturity	1	-	-	-	-	-
- anencephaly	1	-	-	-	-	-



- hydrocephalus	1	-	-	-	-	-
- cataract	1	-	-	-	-	-
- respiratory distress	2	D	-	E	-	-
- urinary tract malformation	1	-	-	-	-	-
- meconium ileus	1	-	-	-	-	-
- necrotizing enterocolitis	1	-	-	-	-	-
- gastroschisis	1	-	-	-	-	-
- choanal atresia	1	-	-	-	-	-
- neonatal seizures	1	-	-	-	-	-
- omphalocele	1	-	-	-	-	-
- malrotation	1	-	-	-	-	-
- diaphragmatic hernia	1	-	-	-	-	-
- anal atresia	1	-	-	-	-	-
- vitamin D supplementation	1	-	-	-	P	-
- screening for metabolic and endocrine disorders	2	-	-	-	-	-
- mongolian spot	1	-	-	-	-	-
- milia	1	-	-	-	-	-
- erythema toxicum	2	D	-	-	-	-
- hypoglycaemia	1	-	-	-	-	-
- haemorrhagic disease of the newborn	2	-	-	-	P	-
- neonatal meningitis	1	-	-	-	-	-
- neonatal sepsis	1	-	-	-	-	-
- conjunctivitis	1	-	-	-	-	-
- omphalitis	1	-	-	-	-	-
- intestinal atresia	1	-	-	-	-	-
- oesophageal atresia	1	-	-	-	-	-
- macrosomia	1	-	-	-	-	-
- small for gestational age	1	-	-	-	-	-
- prematurity	1	-	-	-	-	-
- rhesus/ ABO incompatibility	2	D	-	-	P	-
- hypocalcaemia	1	-	-	-	-	-

### neurological disorders

- migraine, headache	1	-	-	-	-	G
- retinoblastoma	1	-	-	-	-	-
- cerebral palsy	2	-	-	-	-	-
- partial and generalised seizures	1	-	-	-	-	-

- infantile spasms	1	-	-	-	-	-
- typical absence attacks	1	-	-	-	-	-
- neurofibromatosis	1	-	-	-	-	-
- spinal muscular atrophy	1	-	-	-	-	-
- visual disturbances, strabismus, hearing loss	2	-	-	-	-	-
- intracranial tumours	1	-	-	-	-	-
- myopathy	1	-	-	-	-	-

### orthopedic disorders

- Legg-Perthes disease	1	-	-	-	-	-
- osteosarcoma	1	-	-	-	-	-
- transient synovitis of hip	2	-	-	-	-	-
- Osgood-Schlatter disease	1	-	-	-	-	-
- scoliosis	1	-	-	-	-	G
- craniosynostosis	1	-	-	-	-	-
- osteogenesis imperfecta	1	-	-	-	-	-
- achondroplasia	1	-	-	-	-	-
- Ewing sarcoma	1	-	-	-	-	-

### pathologies during pregnancy with consequences on the newborn

- substance abuse during pregnancy, e.g. alcohol, nicotine, heroin and hashisch	1	-	-	-	P	-
- adverse effects of maternal medication on fetus	1	-	-	-	P	-
- adverse effects of ionizing radiation on fetus	1	-	-	-	P	-
- adverse effects of maternal diseases, e.g. diabetes mellitus, hypertension, eclampsia	1	-	-	-	-	-
- neonatal risk of infection	1	-	-	-	-	-
- poly- and oligohydramnios	1	-	-	-	-	-
- infections e.g. rubella, cytomegalovirus, hepatitis B, varicella, HIV, syphilis, listeriosis, toxoplasmosis, herpes simplex, streptococcus gr. B	1	-	-	-	P	-

### psychiatry of childhood and adolescence

- psychoses of the child and adolescent	1	-	-	-	-	-
- risk factors associated with suicide	2	-	-	E	-	-
- sleep-related problems	1	-	-	-	-	-
- autism	1	-	-	-	-	-
- psychosomatic disorders (non specific symptoms: abdominal pain, headache, fatigue)	1	-	-	-	-	G
- encopresis	1	-	-	-	-	-

- tics	1	-	-	-	-	-
- eating disorders	2	-	-	-	-	-
- mutism	1	-	-	-	-	-
- stuttering	1	-	-	-	-	-
- psychic reaction to chronic disease	1	-	-	-	-	-
- depression	1	-	-	-	-	-
- antisocial behavior	1	-	-	-	-	-
- dyslexia	1	-	-	-	-	-
- attention deficit hyperactivity disorder	1	-	-	-	-	-
- reaction to parental divorce	1	-	-	-	-	-
- disorders of mother-child relationship	1	-	-	-	-	G

### respiratory disorders

- cystic fibrosis	2	-	-	-	-	-
- bronchopulmonary dysplasia	1	-	-	-	-	-
- ciliary dysfunction	1	-	-	-	-	-
- asthma	2	D	-	E	-	G
- adenoidal and tonsillar hypertrophy	1	-	-	-	-	-

### skin diseases

- diaper rash	2	D	T	-	P	G
- urticaria	2	D	T	-	-	-
- acne	2	D	-	-	-	G
- haemangioma	1	-	-	-	-	-
- seborrheic dermatitis	1	-	-	-	-	-
- atopic dermatitis	2	D	-	-	-	-
- oral candidiasis	2	D	T	-	-	-
- pediculosis	2	D	T	-	P	-
- scabies	2	D	T	-	P	-

## Skills

### diagnostic procedures

- bone marrow aspiration	1					
- peripheral venous access (age adapted)	1					
- paracentesis	1					
- screening tests of vision (age related)	2					
- drawing a family tree (pedigree)	3					G

Paediatrics	Skills	diagnostic procedures	
	- peak flow rate measurement	1	
	- pleurocentesis	1	
	- blood sampling (capillary, venous, arterial) (age adapted)	1	
	- urine collection (urinary bladder puncture, catheter) (age-adapted)	2	
	- lumbar puncture	1	
	- screening tests of hearing (age adapted)	2	
	- reading of urine sticks	4	G

### general examination

- developmental screening tests (e.g. Denver)	3	G
- measurement of blood pressure (age adapted)	3	G
- measurement of weight, length and head circumference	2	G
- history taking and physical examination of newborn , infant, child and adolescent	3	G

### therapeutic measures

- primary care of the newborn	1	
- neonatal resuscitation	1	
- basic life support of child and adolescent (age adapted)	3	G
- genetic counseling	1	
- enema (age adapted)	1	
- metered dose inhalers, spacers and nebulizers (age adapted)	2	
- orotracheal intubation	1	
- bag-valve-mask ventilation	3	G
- intraosseous infusion	1	
- vaccination (age related)	3	G

## Further Knowledge

### alimentation

- breast-feeding, techniques and frequent problems	1	-	-	-	-	-
- formula feeding and alimentation in the first year of life	2	-	-	-	-	-
- fluid and food requirements as a function of age	1	-	-	-	-	-

### general growth and development (including normal variation)

- APGAR-Score	2	D	-	-	-	-
- adolescent/cognitive and social development	1	-	-	-	-	-

- main parameters of growth (weight, length, head circumference) and of maturation	2	D	-	-	-	-
- main parameters of intrauterine growth and intrauterine maturation	1	-	-	-	-	-
- psychomotor development	2	-	-	-	-	-
- language development	1	-	-	-	-	-
- intellectual development after language development	1	-	-	-	-	-
- maturation of skeleton	1	-	-	-	-	-
- maturation of teeth	1	-	-	-	-	-
- haematopoiesis (foetal and adult haemoglobin levels, variations of red cell mass)	1	-	-	-	-	-
- role of affective bonding as a function of age	1	-	-	-	-	-
- immune system, passive transfer of immunity	1	-	-	-	-	-
- fetal circulation and adaptation to extrauterine life	1	-	-	-	-	-
- maturation of lungs and adaptation to extrauterine life	1	-	-	-	-	-
- regulation of body temperature	1	-	-	-	-	-
- maturation of liver functions	1	-	-	-	-	-
- physiological jaundice	2	-	-	-	-	-
- lung and heart activity, variants of norm	2	D	-	-	-	-
- physiology of lactation	2	-	-	-	-	-
- pubertal development	2	-	-	-	-	-

### genetics

- chromosomal abnormalities (21, 13, 18)	1	-	-	-	-	-
- prenatal diagnostics (indications, methods)	1	-	-	-	-	-
- principles of genetic transmission	1	-	-	-	-	-

### maturation of systems (including normal variation)

- cardiovascular system (heart rate, blood pressure)	1	-	-	-	-	-
- respiratory system (respiratory rate, type of respiration)	1	-	-	-	-	-
- gastro-intestinal system (changes in first year of life)	1	-	-	-	-	-
- urinary and rectal sphincter function	2	-	-	-	-	-

### social and preventive pediatrics

- common accidents	2	-	-	-	P	G
- screening for scoliosis	1	-	-	-	-	-
- abuse and neglect	2	D	-	E	-	G
- school difficulties	1	-	-	-	-	-
- dental care	1	-	-	-	P	-

Paediatrics

Further Knowledge

social and preventive

- well child care	2	-	-	-	P	-
- physical exercise (in children with chronic diseases)	1	-	-	-	-	-
- physical, sensory and social handicaps	1	-	-	-	-	-
- mental retardation	1	-	-	-	-	-
- principal causes of death in children and adolescents	1	-	-	-	-	-

# Gynaecology & Obstetrics

## Clinical Picture

### adnexae

- incontinence in urogynaecology	2	-	-	-	-	-
- ovarian cyst	2	-	-	-	-	-
- carcinoma of ovary	2	-	-	-	-	-
- ectopic pregnancy	2	-	-	-	-	-
- salpingitis (PID)	2	-	-	-	-	-
- torsion tumour / ovarian cyst	2	-	-	-	-	-
- urinary retention in urogynaecology	2	-	-	-	-	-
- rupture of ovarian cyst / tubo-ovarian abscess	2	-	-	-	-	-
- infectious disorders in urogynaecology	2	-	-	-	-	-

### body of the uterus

- uterine prolaps	2	D	-	-	-	G
- congenital malformations	1	-	-	-	-	-
- adenomyosis	1	-	-	-	-	-
- fibroids	2	-	-	-	-	-
- uterine descent	2	-	-	-	-	-
- endometrial carcinoma	2	-	-	-	-	-
- choriocarcinoma	2	-	-	-	-	-
- premalignant disorders	1	-	-	-	-	-
- torsion of fibroid	1	-	-	-	-	-

### breasts

- benign disorders	2	-	-	-	-	G
- inflammation	2	D	-	-	-	G
- malignant disorders	2	-	-	-	-	-

### cervix

- condylomata acuminata	2	-	-	-	-	-
- polyps	2	-	-	-	-	-
- pre-malignant disorders	2	-	-	-	-	-
- Nabothian cyst	2	-	-	-	-	-
- carcinoma of cervix	2	-	-	-	-	-

**delivery**

- premature rupture of membranes	2	D	-	-	-	-
- premature delivery	2	D	-	-	-	-
- postmature infant	2	-	-	-	-	-
- premature contractions	2	D	-	-	-	-
- unstable lie / malposition after 36 weeks	2	-	-	-	-	-
- dystocia, foetal and passage	2	-	-	-	-	-
- malpresentation of fetus	2	-	-	-	-	-
- prolonged delivery	2	-	-	-	-	-
- primary mild contractions	2	-	-	-	-	-
- secondary mild contractions	2	-	-	-	-	-
- cord presentation / cord prolapse	2	-	-	-	-	-
- failure to rotate / incorrect rotation	1	-	-	-	-	-
- rupture of cervix	1	-	-	-	-	-
- rupture of perineum	2	D	-	-	-	-
- shoulder distocia	2	-	-	E	-	-
- infant retained placenta	2	-	-	-	-	-
- rupture of uterus	2	-	-	-	-	-
- hypoxia of fetus	2	-	-	-	-	-

**genetic disorders**

- Turner's syndrome	1	-	-	-	-	-
- gonadal XY-dysgenesis	1	-	-	-	-	-

**other disorders**

- traumatic gynaecological injuries	1	-	-	-	-	-
- foreign body	1	-	-	-	-	-
- infertility, subfertility (female and male)	1	-	-	-	-	-
- infertility, subfertility (female and male)	1	-	-	-	-	-

**postpartum**

- blood group incompatibility	2	-	-	-	-	-
- postpartum endometritis	1	-	-	-	-	-
- postpartum haemorrhage	2	D	-	-	-	-
- uterine inversion	2	-	-	-	-	-
- retained placental tissue	2	-	-	-	-	-
- thrombo-embolism	2	-	-	-	-	-



**pregnancy**

- vasa previa	2	-	-	-	-	-
- bleeding from marginal vein	1	-	-	-	-	-
- placenta anomaly	2	-	-	-	-	-
- abruptio placenta	2	-	-	-	-	-
- cervical incompetence	2	-	-	-	-	-
- polyhydramnion	2	-	-	-	-	-
- jaundice late in pregnancy	2	-	-	-	-	-
- urinary tract infection in pregnancy	2	D	T	-	-	G
- megaloblastic anaemia in pregnancy	2	-	-	-	-	-
- iron deficiency anaemia in pregnancy	2	D	T	-	P	G
- division of the pubic symphysis	2	-	-	-	-	-
- placenta praevia	2	-	-	-	-	-
- pyelitis in pregnancy	2	-	-	-	-	-
- blood group incompatibility	2	-	-	-	-	-
- dead fetus	2	-	-	-	-	-
- threatened abortion	2	-	-	-	-	-
- hyperemesis gravidarum	2	D	-	-	-	-
- hydatidiform mole	2	-	-	-	-	-
- multiple pregnancy	2	-	-	-	-	-
- placental insufficiency	2	-	-	-	-	-
- intra-uterine infection	2	-	-	-	-	-
- pregnancy induced hypertension	2	D	-	-	-	-
- gestational diabetes mellitus	2	D	-	-	-	-
- dysmaturity	2	-	-	-	-	-
- spontaneous abortion	2	-	-	-	-	-
- prenatal screening for chromosomal disorders	1	-	-	-	-	-
- screening for infectious diseases	1	-	-	-	-	-
- prenatal ultrasound screening for malformations, intrauterine growth retardation	1	-	-	-	-	-

**puerperium**

- pulmonary embolism	2	-	-	-	-	-
- incontinence of urine	2	D	-	-	-	-
- mastitis	2	D	T	-	-	G
- cracked nipple	2	D	T	-	-	-
- endometritis	2	-	-	-	-	-

- inflammation of pelvis (salpingitis, pelvoperitonitis, perimetritis etc.)	2	-	-	-	-	-
- incontinence of faeces	2	D	-	-	-	-
- superficial thrombophlebitis	2	D	-	-	-	G
- post-natal psychoses	2	-	-	-	-	-
- post-natal depression	2	-	-	-	-	-
- subinvolution of uterus	1	-	-	-	-	-
- deep venous thrombosis	2	-	-	-	-	G

### vagina

- cysto-urethrocoele	1	-	-	-	-	-
- rectocoele	1	-	-	-	-	-
- vaginal vault prolaps	2	-	-	-	-	-
- fistula (vesico-vaginal, uretero-vaginal, recto-vaginal and uretero-vaginal)	1	-	-	-	-	-
- enterocoele	1	-	-	-	-	-
- cystocoele	2	-	-	-	-	-
- urethrocoele	1	-	-	-	-	-
- condylomata	2	-	-	-	-	-
- cyst of Gartner	1	-	-	-	-	-
- vaginitis, atrophic	1	-	-	-	-	-
- vaginitis, non-specific bacterial	2	-	-	-	-	G
- vaginitis, gardnerella	2	-	-	-	-	G
- vaginitis, trichomoniasis	2	-	-	-	-	G
- vaginitis, candidiasis	2	-	-	-	-	G
- congenital malformations	1	-	-	-	-	-
- vaginal carcinoma	2	-	-	-	-	-
- diverticulum of urethra	1	-	-	-	-	-

### vulva

- vulvitis, herpes-simplex	2	D	T	-	-	G
- vulvitis, candidiasis	2	D	T	-	-	G
- vulvitis, pediculosis pubis	2	-	-	-	-	G
- cyst of Bartholin, abscess of Bartholin's gland	2	D	-	-	-	-
- abscess of hair follicle or sebaceous gland	2	D	-	-	-	G
- condylomata acuminata	2	D	-	-	-	G
- carcinoma of vulva	2	-	-	-	-	-
- dystrophy of vulva	2	D	-	-	-	-

**endocrine disorders**

- endometriosis	2	-	-	-	-	-
- testicular feminization	1	-	-	-	-	-
- hyperprolactinemia and galactorrhea	1	-	-	-	-	-
- menopause, climacteric syndrome and osteoporosis	2	D	T	-	-	-
- premenstrual disorders, amenorrhea, oligomenorrhea, dysmenorrhea	2	-	-	-	-	-
- polycystic ovary syndrome (metabolic syndrome)	2	-	-	-	-	-
- hirsutism and virilisation	2	-	-	-	-	-

**Skills****additional diagnostic tests for subfertility**

- genital discharge: Gram stain	2			
- assessment of results of semen examination	1			
- basal temperature curve, instructions, assessment of results	2			
- examination of cervical mucus fern test	1			
- post-coital test, obtaining material, preparing and assessing slide	1			
- hysterosalpingography / hysteroscopy	2			
- laparoscopy, diagnostic and therapeutic	2			
- curettage	2			
- genital discharge: vaginal swab	2			
- genital discharge: examination with potassium	2			
- genital discharge: examination with saline	2			
- physical examination of male genitalia	3			G
- vaginal ultrasound examination of uterus and ovaries	2			

**contraception / sterilization / prevention**

- instructions for self-examination of breasts	3			G
- insertion of pessary	1			
- laparoscopic sterilization	2			
- electro- or cryocoagulation cervix	2			
- insertion I.U.D.	2			
- insertion of urinary catheter	3			
- advise about contraception and postcoital interception	3			G
- laparoscopy, therapeutic	2			

**delivery**

- aspiration of mouth/throat of newborn infant	2
- foetal blood sampling	2
- artificial rupture of membranes	2
- inspection and support of perineum	2
- local anaesthesia of perineum	2
- pudendal anaesthesia	2
- epidural anaesthesia	2
- CTG: performance and interpretation	2
- receive / hold newborn	2
- attending woman in labour	2
- clamp cord/separation of placenta	3
- delivery of placenta	2
- repair of episiotomy and lacerations	2
- chemical induction of labour	2
- support delivery in breech presentation	2
- assisted vaginal delivery	2
- caesarean section	2
- manual removal of placenta	2
- episiotomy	2
- obstetric examination (assessment of cervix, dilatation, membranes, presentation of fetus, descent)	2

**physical examination**

- combined recto-vaginal examination: palpation recto-vaginal septum	1	
- rectal examination: palpation of pouch of Douglas, uterus (with simulator)	3	
- bimanual examination: palpation of vagina, cervix, uterine corpus, ovaries (with simulator)	3	
- speculum examination: inspection of vagina and cervix (with simulator)	3	
- inspection and palpation of external genitalia	2	
- breast examination	3	G
- general physical examination	4	G

**postpartum**

- examination of placenta	2
- record Apgar score	3

- measure /estimate loss of blood, after delivery 2
- examination umbilical cord 3
- postpartum: examination fundal height, placenta: loose/  
retained 2
- physical examination of newborn 3

### **pregnancy**

- internal examination in early pregnancy 2
- palpation: fundal height, Leopold's manoeuvre external  
assessment of position 3 G
- pelvic examination 2
- assessment of foetal heart rate 3 G
- inspection of abdomen of pregnant woman 3
- pregnancy test, urine 2
- chorionic biopsy 1
- ultrasound examination 2
- amniocentesis 1

### **puerperium**

- inspection episiotomy scar 3
- palpation of position of fundus 3
- if necessary, discussing contraception 3 G
- advice on hygiene 3 G
- breasts: inspection, lactation 3
- inspection caesarean section scar 2
- assessment of lochia 3
- assist and check mother and newborn 2

### **subfertility**

- artificial insemination and ovulation induction 2

# Psychiatry

## Clinical Picture

### development

- attention deficit and hyperactivity disorder	1	-	-	-	-	-
- mental retardation and learning disorders	2	-	-	-	-	-
- autism	1	-	-	-	-	-
- tic disorders	1	-	-	-	-	-
- elimination disorders	1	-	-	-	-	-
- speech and language disorders	1	-	-	-	-	-

### disorders with physiological disturbances

- sexual dysfunctions	2	-	-	-	P	-
- sleep disorders	2	-	-	-	P	G
- eating disorders	2	-	-	-	-	G

### mood

- depressive disorders	2	-	-	E	-	G
- bipolar disorders	2	-	-	E	-	-
- dysthymia	2	-	-	-	-	-

### neurosis

- dissociative (conversion) disorder	1	-	-	-	-	-
- stress and adjustment disorders	1	-	-	-	-	-
- obsessive-compulsive disorder	1	-	-	-	-	-
- panic disorder and agoraphobia	2	-	-	E	-	-
- generalized anxiety disorder	2	-	-	-	-	G
- specific phobias and social phobia	2	-	-	-	-	-
- somatoform disorders	1	-	-	-	-	-

### organic mental disorders

- delirium	2	D	-	E	P	G
- dementia	2	D	-	-	-	G
- alcohol-related disorders	2	D	-	E	P	G
- opioid-related disorders	2	D	-	E	P	G
- nicotine-related disorders	2	D	T	-	P	G

- amphetamine-related disorders	2	D	-	-	P	G
- sedative-,hypnotic-,anxiolytic-related disorders	2	D	-	-	P	G
- cannabis-related disorders	2	D	-	E	P	G

### personality

- paranoid, schizoid and schizotypal personality disorder	1	-	-	-	-	-
- gender identity disorders	1	-	-	-	-	-
- avoidant and dependent personality disorders	1	-	-	-	-	-
- borderline personality disorder	2	-	-	-	-	-
- antisocial personality disorders	1	-	-	-	-	-
- disorders of sexual preference	1	-	-	-	-	-

### schizophrenia and related disorders

- delusional disorder (paranoia)	1	-	-	-	-	-
- schizophrenia	2	-	-	E	-	-
- schizo-affective disorders	1	-	-	-	-	-
- brief psychotic disorders	2	-	-	E	-	-

### treatment side effects

- extrapyramidal side effects	2	D	-	E	P	G
- lithium intoxication	2	D	-	E	-	-
- malignant neuroleptic syndrome	1	-	-	-	-	-

## Skills

### diagnostic instruments

- ICD-10	1					
- Mini Mental Status	3					G

### history

- psychiatric history	3					G
- vegetative and sexual history	3					G
- psychoactive substance history	3					G
- third person history	3					G
- family history	3					G
- biographic history	3					G
- social history	3					G

**procedures**

- |  |   |   |
|--|---|---|
| - referral to specialized psychiatric care | 2 |   |
| - referral to social services              | 2 | G |

**psychiatric examination**

- |   |   |   |
|---|---|---|
| - attention and intelligence                    | 3 | G |
| - thought (form and content)                    | 3 | G |
| - perception                                    | 3 | G |
| - affect  | 3 | G |
| - psychomotor behavior                          | 3 | G |
| - suicidal risk assessment                      | 2 |   |
| - identifying psychological and social problems | 2 |   |
| - orientation, consciousness and memory         | 4 | G |

**psychotherapy**

- |                                      |   |
|--------------------------------------|---|
| - cognitive-behavioral psychotherapy | 1 |
| - relaxation techniques              | 2 |
| - systemic therapy                   | 1 |
| - psychodynamic psychotherapy        | 1 |

**somatic therapy**

- |                             |   |
|-----------------------------|---|
| - electroconvulsion therapy | 1 |
| - sleep deprivation         | 1 |

**Further Knowledge****legal aspects**

- |                                       |   |   |   |   |   |   |
|---------------------------------------|---|---|---|---|---|---|
| - involuntary admission               | 2 | - | - | - | - | - |
| - aggression and suicidality          | 2 | - | - | - | - | - |
| - involuntary treatment and restraint | 1 | - | - | - | - | - |
| - legal capacity                      | 1 | - | - | - | - | - |



# Ophthalmology

## Clinical Picture

### anterior chamber

- hypopyon 2 D - - - -
- hyphaema 2 D - - - -

### choroid

- neoplasms of choroid (melanoma, metastases) 1 - - - -
- chorioretinitis 1 - - - -

### conjunctiva

- conjunctiva, foreign body 2 D T - - G
- conjunctivitis 2 D T - - G
- subconjunctival haemorrhage 2 D - - - -
- pterygium 2 D - - - -

### cornea

- burns: heat 2 D - E - -
- dendritic keratitis (herpes) 2 D - - - -
- burns: alkali 2 D - E - -
- burns: acid 2 D - E - -
- keratitis 2 D - - - -
- cornea, foreign body 2 D - - - G
- corneal dystrophy 1 - - - -
- lesions of cornea, superficial (actinic keratitis, erosion, contact lenses) 2 D T - - G
- keratoconus 1 - - - -
- kerato-conjunctivitis sicca 2 - - - -
- corneal oedema 2 - - - -
- keratitis with corneal ulcer 2 D - - - -

### eyeball

- eyeball, contusion 2 D - E - -
- eyeball, perforation 2 D - E - -
- eyeball, intraocular foreign body 2 - - - -
- endophthalmitis 2 - - - -

Ophthalmology	Clinical Picture	eyeball
- microphthalmos		1 - - - - -
- buphthalmos		1 - - - - -
<b>eyelids</b>		
- trichiasis		2 D - - - - -
- eyelid tumour, e.g. basal cell carcinoma		2 - - - - -
- xanthelasma		2 D - - - - -
- eyelid retraction		2 - - - - -
- epicanthus		2 D - - - - -
- hordeolum		2 D - - - - -
- ptosis		2 D - - - G
- ectropion		2 D - - - - -
- entropion		2 D - - - - -
- chalazion		2 D - - - - -
- blepharitis		2 D - - - G
- lagophthalmos		2 D - - - - -
- eyelid laceration		2 D - - - - -
<b>glaucoma</b>		
- glaucoma, congenital		1 - - - - -
- secondary glaucoma		1 - - - - -
- simple glaucoma		2 - - - - -
- acute glaucoma		2 D - E - -
<b>iris and ciliary body</b>		
- tumour of iris		1 - - - - -
- iridocyclitis, iritis		2 - - - - G
<b>lacrimial apparatus</b>		
- dacryoadenitis		1 - - - - -
- dacryocystitis		2 D - - - - -
- tumour of lacrimal gland		1 - - - - -
- lacrimal duct, laceration		2 - - - - -
- dacryostenosis		2 - - - - -
<b>lens</b>		
- lens dislocation		1 - - - - -
- cataract		2 D - - - - -

- aphakia 1 - - - - -
- pseudophakia (artificial lens) 1 - - - - -

**optic disc and optic nerve**

- optic disc cupping 2 - - - - -
- papilloedema, e.g. increased intracranial pressure 2 - - - - G
- optic atrophy 2 - - - - -
- optic neuropathy, e.g. optic neuritis 2 - - - - -

**orbit**

- inflammation of orbit, orbital cellulitis 1 - - - - -
- tumour of orbit 1 - - - - -
- fracture of orbit 2 - - - - -

**refraction and accommodation**

- astigmatism 2 - - - - -
- presbyopia 2 - - - - G
- anisometropia 1 - - - - -
- cycloplegia 1 - - - - -
- myopia 2 - - - - G
- hypermetropia 2 - - - - G

**retina**

- retinopathy, hypertensive 2 - - - - -
- retinopathy of prematurity (ROP) 1 - - - - -
- retinopathy, diabetic 2 - - - - G
- retinoblastoma 2 - - - - -
- retina, vessel occlusion or bleeding 2 - - - - -
- degeneration of macula, age dependent 2 - - - - -
- retinal detachment 2 - - - - -

**sclera**

- scleritis/ episcleritis 1 - - - - -

**squint**

- upward deviation strabismus (hypertropia) 1 - - - - -
- nystagmus 2 - - - - -
- strabismus, paralytic 2 D - - - - -
- strabismus, intermittent 1 - - - - -

Ophthalmology	Clinical Picture	squint				
- downward deviation strabismus (hypotropia)		1	-	-	-	-
- divergent strabismus (exotropia)		2	D	-	-	-
- convergent strabismus (esotropia)		2	D	-	-	-
- latent strabismus (heterophoria)		1	-	-	-	-
<b>underlying diseases</b>						
- eye disorders due to diabetes mellitus		2	-	-	-	-
- eye disorders due to hyperthyroidism (Graves disease)		2	-	-	-	-
<b>vision and visual fields</b>						
- scotoma		2	-	-	-	-
- night-blindness		1	-	-	-	-
- suppression		1	-	-	-	-
- loss of vision and blindness		2	D	-	-	-
- hemianopia, bitemporal and homonymous		2	D	-	-	-
- amblyopia		2	-	-	-	-
- diplopia		2	-	-	-	-
<b>vitreous fluid</b>						
- vitreous haemorrhage		2	-	-	-	-

## Skills

### additional general ophthalmological examination

- lacrimal ducts, rinse through (Anel)	1	
- measurement of exophthalmos (Hertel)	2	
- measurement of lacrimal production	2	
- fundus contact lens examination, e.g. gonioscopy	1	
- determination of refraction after cycloplegia (skiascopy)	1	

### external inspection

- eyelash, inspection	4	
- lymph nodes, pre-auricular, palpation	4	
- conjunctivae, inspection, including fornix	4	G
- eyelids, inspection	4	G
- eyelids, inspection by eversion of upper lid	3	G
- inspection lacrimal apparatus,	2	
- sclerae, inspection	3	G

**fundi**

- |  |   |   |
|--|---|---|
| - retina vessels, inspection, discrimination between normal and abnormal | 3 |   |
| - optic disc, inspection, discrimination between normal and abnormal     | 3 |   |
| - fundoscopy, bringing the fundus into focus                             | 4 | G |

**intra-ocular pressure**

- |  |   |   |
|--|---|---|
| - intra-ocular pressure, measurement by aplanation tonometer                                     | 2 |   |
| - intra-ocular pressure, estimation by palpation   | 3 | G |
| - intra-ocular pressure, measurement by indentation tonometer (Schiötz) or non-contact-tonometer | 2 |   |

**media**

- |   |   |   |
|---|---|---|
| - iris, inspection                              | 3 | G |
| - lens, inspection                              | 3 |   |
| - anterior chamber, inspection                  | 3 |   |
| - cornea, determination of sensation            | 3 | G |
| - cornea, inspection with fluorescein           | 3 | G |
| - cornea, inspection                            | 4 | G |
| - media of eye, inspection by transillumination | 3 | G |
| - slit-lamp examination                         | 2 |   |

**position of eyes**

- |                                       |   |   |
|---------------------------------------|---|---|
| - binocular vision, assessment        | 2 |   |
| - eye movements, examination          | 4 | G |
| - position with cover test            | 3 |   |
| - position with corneal reflex images | 3 | G |

**pupils**

- |   |   |   |
|---|---|---|
| - pupils, inspection                              | 4 | G |
| - pupil, direct reaction to light and convergence | 4 | G |

**refraction**

- |  |   |   |
|--|---|---|
| - assessment of refraction, objective (refractometry, keratometer) | 2 |   |
| - assessment of refraction, subjective                             | 2 | G |

**special ophthalmological examination**

- electro-oculography	1	
- eye, echographic examination: ultrasonography (USG)	1	
- eye, visual evoked potentials (VEP/VER)	1	
- electroretinography	1	
- colour vision test with Ishihara tables	3	
- contact lenses (examination)	1	
- perimetry	2	
- orthoptic examination	2	
- eye, fluorescein angiography (FAG)	2	

**therapeutic methods**

- cornea, removal of foreign body and debris	2	
- eye, cryocoagulation: e.g. cyclocryocoagulation	1	
- glaucoma surgery, trabeculotomy	1	
- eyelid surgery (chalazion removal, entropion, ectropion, ptosis)	1	
- corneal transplantation	1	
- vitrectomy	1	
- eye ointment application	4	G
- squint, surgery	1	
- detached retina, surgery	1	
- cataract, surgery	2	
- eye, laser therapy	1	
- removal of eye lashes	1	
- eye, removal of contact lens or eye prosthesis	1	
- apply eye dressing	3	
- flood ocular tissue	3	
- eye drops instillation	4	G
- eye, eversion upper eyelid with swab (removal of foreign body)	3	

**vision**

- assessment of vision, infant/child	2	
- assessment of vision	4	G

**visual fields**

- visual fields, Amsler panes	2	
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Ophthalmology

Skills

visual fields

- visual fields, Donders confrontation test

4

G

# Dermatology

## Clinical Picture

### allergic and non-allergic intolerance reactions

- urticaria	2	D	T	E	-	G
- drug rash	2	-	-	-	-	G
- toxic epidermal necrolysis	2	-	-	-	-	-
- Stevens-Johnson syndrome	1	-	-	-	-	-
- erythema multiforme	2	-	-	-	-	-
- erythema nodosum	2	D	-	-	-	-
- allergic vasculitis	2	-	-	-	-	-
- nummular-bacterial eczema	2	D	T	-	-	-
- diaper dermatitis	2	D	T	-	-	-
- dyshidrotic eczema	2	D	T	-	-	-
- allergic contact dermatitis	2	D	T	E	P	G
- toxic contact dermatitis	2	D	T	E	P	-
- seborrheic eczema	2	D	T	-	-	-
- angio-oedema	2	D	-	E	-	-
- atopic / constitutional eczema	2	D	T	-	-	G

### alterations of pigmentation

- vitiligo	2	-	-	-	-	-
- café au lait spots	2	-	-	-	-	-
- lentigo simplex	2	D	-	-	-	-

### auto-immune and bullous dermatoses

- dermatomyositis	1	-	-	-	-	-
- lupus erythematosus	2	-	-	-	-	-
- pemphigus vulgaris	1	-	-	-	-	-
- dermatitis herpetiformis (Dühring's disease)	1	-	-	-	-	-
- progressive systemic sclerosis	1	-	-	-	-	-
- circumscribed scleroderma/morphea	1	-	-	-	-	-
- bullous pemphigoid	1	-	-	-	-	-

### bacterial infections

- hydradenitis suppurativa	1	-	-	-	-	-
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- lepra	1	-	-	-	-	-
- impetigo	2	D	T	-	-	-
- folliculitis	2	D	T	-	-	G
- furuncle/carbuncle	2	D	T	-	-	-
- acrodermatitis chronica atrophicans/lymphocytoma	1	-	-	-	-	-
- erythema (chronicum) migrans	2	-	-	-	-	-
- erythrasma	1	-	-	-	-	G
- erysipelas	2	D	T	-	-	G
- staphylococcal scaled skin syndrome (SSSS, toxic shock syndrome)	2	-	-	-	-	-

### benign tumors and naevi

- seborrheic keratosis	2	-	-	-	-	-
- lipoma	2	-	-	-	-	-
- keloid	2	-	-	-	-	-
- naevus cell naevus	2	D	-	-	-	-
- haemangioma	2	-	-	-	-	G
- flammeous naevus	2	-	-	-	-	-
- urticaria pigmentosa	1	-	-	-	-	-
- histiocytoma	1	-	-	-	-	-

### diseases of skin appendages

- nail dystrophies (psoriasis, lichen planus, mycoses)	2	-	-	-	-	-
- alopecia areata, androgenic, non-/cicatricial	2	-	-	-	-	-
- nail dyschromias	1	-	-	-	-	-
- hirsutism	2	-	-	-	-	-

### diseases of transitional epithelia

- leukoplakia/leukokeratosis	2	-	-	-	-	-
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### fungal infections

- dermatophytic disease	2	D	T	-	-	G
- pityriasis versicolor	2	D	T	-	-	-
- candidiasis	2	D	T	-	-	G

### genodermatoses

- ichthyosis	1	-	-	-	-	-
- xeroderma pigmentosum	1	-	-	-	-	-
- palmoplantar keratoses	1	-	-	-	-	-

Dermatology	Clinical Picture	genodermatoses
- epidermolysis bullosa		1 - - - - -
- neurofibromatosis (Recklinghausen's disease)		1 - - - - -
<b>granulomatous diseases</b>		
- granuloma annulare		1 - - - - -
- sarcoidosis		1 - - - - -
<b>papular and erythematous disorders</b>		
- prurigo		1 - - - - -
- pityriasis rosea		2 - - - - -
- lichen planus		2 - - - - -
- psoriasis		2 D T - - G
<b>parasitic infections</b>		
- flea bites		2 D T - P -
- cutaneous leishmaniasis		1 - - - - -
- insect sting		2 D T - - -
- trombidiosis		2 D T - - -
- pediculosis capitis		2 D T - P -
- pediculosis pubis		2 D T - P -
- scabies		2 D T - P -
<b>photodermatoses and physically induced dermatoses</b>		
- photodermatoses in a broad sense		1 - - - - -
- solar dermatitis		2 D T E P -
- burns		2 D - E - -
- pernio / frost bites		1 - - - - -
- actinic dermatitis		1 - - - - -
<b>pre-malignant and malignant skin lesions</b>		
- Bowen's disease		2 - - - - -
- malignant lymphoma of the skin		1 - - - - -
- Paget's disease of the breast		1 - - - - -
- skin metastases caused by internal tumours		1 - - - - -
- lentigo maligna		2 - - - - -
- malignant melanoma		2 - - - P -
- squamous cell carcinoma		2 - - - P -
- basalioma		2 - - - P -

- actinic keratosis	2	D	-	-	-	G
- Kaposi's sarcoma	2	-	-	-	-	-

**proctological diseases**

- anal fissure	2	D	-	-	-	-
- haemorrhoids	2	D	-	-	-	G

**psychodermatoses**

- trichotillomania	1	-	-	-	-	-
- dermatitis artefacta	1	-	-	-	-	-
- psychogenic pruritus	1	-	-	-	-	G

**sebaceous gland diseases**

- acne	2	D	T	-	-	G
- rosacea	2	-	-	-	-	-
- skin lesions in diabetes mellitus	1	-	-	-	-	G
- xanthoma	1	-	-	-	-	-
- paraneoplastic skin manifestations	1	-	-	-	-	-
- symptomatic porphyria	1	-	-	-	-	-
- perioral dermatitis	1	-	-	-	-	-

**sexually transmitted diseases (not mentioned elsewhere)**

- granuloma inguinale	1	-	-	-	-	-
- herpes genitalis	2	D	T	-	P	-
- bacterial vaginitis	1	-	-	-	-	-
- trichomoniasis	1	-	-	-	-	G
- gonorrhoea	2	D	T	-	P	-
- chlamydial infection	2	-	T	-	-	-
- nonspecific urethritis	2	-	T	-	-	-
- syphilis	2	D	T	-	P	-
- soft ulcer	1	-	-	-	-	-
- lymphogranuloma venereum	1	-	-	-	-	-
- cutaneous manifestations of AIDS	2	-	-	-	P	-

**vascular diseases**

- decubital ulcer	2	D	-	-	P	-
- varicosis, venous insufficiency, leg ulcers, stasis ulcer	2	D	-	-	-	G
- lymphangitis	2	D	-	-	-	-

**viral infections**

- eczema herpeticum	1	-	-	-	-	-
- herpes zoster and varicella	2	D	T	-	P	G
- herpes simplex	2	D	T	-	-	G
- warts	2	D	T	-	-	G
- molluscum contagiosum	2	D	T	-	-	-
- hairy leucoplakia	1	-	-	-	-	-
- acuminata condyloma	2	D	-	-	-	-

**Skills****physical examination**

- skin inspection with magnifying glass	4					G
- dermatographism	4					G
- diascop / pleximeter	4					
- inspection of nails, scalp and visible mucosa	4					G
- skin inspection with UV A-light (Wood's lamp)	2					

**techniques of examination**

- patch test	2					
- punch biopsy	1					
- parasite identification	1					
- preparation and assessment of Gram stain	2					
- preparation and assessment of fungal and bacterial swabs and smears	2					
- intracutaneous test	2					

**terminology of skin lesions**

- description of skin lesions, primary and secondary changes, as well as distribution, expansion and configuration	4					G
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**Further Knowledge****basics of dermatologic therapy**

- topical, systemic, physical, galenic, specific drugs	1	-	-	-	-	-
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# Otorhinolaryngology

## Clinical Picture

### chronic middle ear diseases

- otosclerosis 1 - - - - -

### complications of tonsillitis

- glomerulonephritis 2 - - - - -
- rheumatic fever 2 D - - - - -
- chorea minor (Sydenham's chorea) 1 - - - - -
- retropharyngeal abscess 1 - - E - -
- tonsillogenic septicemia 1 - - E - -
- peritonsillar abscess 1 - - E - -

### diseases of pharynx and hypopharynx

- snoring and obstructive sleep apnoe syndrome 2 D - - - G
- foreign body of hypopharynx 1 - - E - -
- hypopharyngeal diverticulum (Zenker's diverticulum) 1 - - - - -
- ranula 1 - - - - -

### diseases of the external ear

- exostosis, hyperostosis 1 - - - - -
- atheroma 2 - - - - -
- impacted earwax 2 D T - - G
- foreign body in external auditory canal 2 D - E - G

### diseases of the inner ear

- labyrinthitis 1 - - - - -
- transverse fracture of temporal bone 1 - - E - -
- acoustic neurinoma (vestibular schwannoma) 1 - - - - -

### diseases of the oesophagus

- malformations of oesophagus 1 - - - - -
- foreign body of oesophagus 1 - - E - -
- injuries and perforations of oesophagus 1 - - - - -
- strictures of oesophagus 1 - - - - -
- oesophageal varices 1 - - - - -

**diseases of the vestibular organ**

- benign paroxysmal positional vertigo (cupulo- and canalolithiasis)	1	-	-	-	-	-
- Menière's disease	2	D	-	E	-	-
- motion sickness (kinetosis)	2	D	T	-	-	-
- vestibular ototoxicity	2	-	-	-	-	-
- sudden loss of vestibular function (vestibular neuritis)	1	-	-	E	-	-
- central vestibular dysfunction	1	-	-	-	-	-

**disorders of the cervico-facial region**

- cervical lymph node metastases	1	-	-	-	-	-
- lateral and midline cervical cysts and fistulas	1	-	-	-	-	-
- cervical lymphadenitis	1	-	-	-	-	-
- benign tumours (incl. simple goitre)	1	-	-	-	-	-
- polyadenopathy in HIV infection	1	-	-	-	-	-
- cervical lymph node tuberculosis	1	-	-	-	-	-

**epistaxis**

- superior epistaxis	1	-	-	E	-	-
- posterior epistaxis	1	-	-	E	-	-
- anterior epistaxis	2	D	T	E	-	-

**facial nerve dysfunctions**

- traumatic facial nerve palsy	2	D	-	-	-	-
- central facial nerve palsy	2	D	-	-	-	-
- infectious / inflammatory facial nerve palsy	2	D	-	-	-	-
- facial nerve palsy due to borreliosis (Lyme disease)	2	D	-	-	-	-
- neoplastic facial nerve palsy	1	-	-	-	-	-
- peripheral facial nerve palsy	2	D	-	-	-	-
- idiopathic facial nerve palsy (Bell's palsy)	2	D	-	-	-	-

**HIV infections and AIDS**

- herpetic stomatitis	2	-	-	-	-	-
- oropharyngeal thrush (candidiasis)	2	-	-	-	-	-
- Kaposi's sarcoma	1	-	-	-	-	-
- hairy leukoplakia of the border of the tongue	1	-	-	-	-	-

**inflammations of the nose, the paranasal sinus and the anterior**

- allergic rhinosinusitis	2	D	T	-	-	G
- acute rhinitis	2	D	T	-	-	G
- furuncle of the nose	2	D	T	-	-	-
- chronic hyperreactive (vasomotoric) rhinosinusitis	2	-	-	-	-	-
- chronic rhinosinusitis	1	-	-	-	-	-
- nasal polyposis	2	-	-	-	-	-
- aspirin-associated rhinosinusitis	1	-	-	-	-	-
- rhinosinogenic complications	1	-	-	-	-	-
- principles of endonasal surgery	1	-	-	-	-	-
- acute rhinosinusitis	2	D	T	-	-	G

**inflammatory diseases of the external ear**

- acute external otitis	2	D	T	-	-	G
- bullous external otitis	1	-	-	-	-	-
- otomycosis	1	-	-	-	-	-
- erysipelas of auricle	2	D	-	-	-	-
- zoster oticus (Ramsey Hunt syndrome)	1	-	-	-	-	-
- chondrodermatitis nodularis	1	-	-	-	-	-
- necrotising external otitis (malignant external otitis)	1	-	-	-	-	-
- perichondritis of auricle	1	-	-	-	-	-
- furunculosis of the external auditory canal	2	D	T	-	-	-

**inflammatory diseases of the larynx and the tracho-bronchial system**

- viral croup (pseudocroup, laryngitis subglottica)	2	D	T	E	-	G
- acute and chronic tracheitis	1	-	-	-	-	-
- laryngitis in tuberculosis, syphilis and AIDS	1	-	-	-	-	-
- laryngeal chondritis	1	-	-	-	-	-
- Reinke's oedema of vocal cords	1	-	-	-	-	-
- epiglottitis	2	D	-	E	-	-
- acute laryngitis	1	-	-	-	-	G
- chronic laryngitis	1	-	-	-	-	G

**inflammatory diseases of the middle ear**

- chronic otitis media with central perforation of tympanic membrane	2	D	-	-	-	-
- lateral sinus thrombosis	1	-	-	-	-	-
- otogenic brain abscess	1	-	-	-	-	-

- otogenic facial palsy	1	-	-	E	-	-
- cholesteatoma	1	-	-	-	-	-
- viral otitis	1	-	-	-	-	G
- chronic otitis with effusion (glue ear)	2	D	-	-	-	-
- acute otitis media	2	D	T	E	-	G
- otogenic meningitis	2	D	-	E	-	-
- purulent otomastoiditis and mastoid abscess	1	-	-	E	-	-

### inflammatory diseases of the oral cavity

- cheilitis angularis (= Perlèche)	2	D	T	-	-	-
- herpes labialis	2	D	T	-	-	G
- gingivitis	1	-	-	-	-	G
- stomatitis mycotica	2	D	T	-	-	-
- cheilitis	1	-	-	-	-	-

### inflammatory diseases of the pharynx

- agranulocytotic angina	1	-	-	-	-	-
- acute pharyngitis	2	D	T	-	-	G
- follicular tonsillitis	2	D	T	-	-	G
- chronic pharyngitis	1	-	-	-	-	-
- diphtheria incl. diphtheric croup	1	-	-	E	-	-
- Plaut-Vincent angina (trench mouth), acute necrotising ulcerative gingivitis	1	-	-	-	-	-
- infectious mononucleosis	2	D	T	-	-	-
- indications for and complications of tonsillectomy	1	-	-	-	-	-
- scarlet fever	2	D	T	-	-	G

### inflammatory diseases of the salivary glands

- sialolithiasis of salivary glands	1	-	-	-	-	-
- mumps parotitis	1	-	-	-	-	-
- suppurative parotitis	1	-	-	-	-	-
- mumps (epidemic parotitis)	2	D	-	-	-	-

### malformations of oral cavity and pharynx

- labial, maxillary and palatine clefts	1	-	-	-	-	-
- otomandibular dysplasias (dysostosis cranio-facialis)	1	-	-	-	-	-
- norm variants of the tongue	1	-	-	-	-	-



**malformations of the external ear**

- prominent auricle (bat ear, lop ear) 1 - - - - -
- microtia 1 - - - - -

**malformations of the larynx and the tracheo-bronchial system**

- laryngocoele 1 - - - - -
- other malformations of the tracheo-bronchial system 1 - - - - -
- tracheomalacia 1 - - - - -

**malfunction of vocal cords and phonation**

- unilateral and bilateral palsy of recurrent laryngeal nerve 1 - - - - -
- disorders of phonation 1 - - - - -
- neurologic syndromes causing vocal cord paralysis 1 - - - - -

**malfunctions of the nose, the paranasal sinus and the anterior skullbase**

- changes of shape of external nose 1 - - - - - G
- choanal atresia 1 - - - - -
- facial clefts, nasal clefts, nasal fistulas 1 - - - - -
- deviation of nasal septum 2 - - - - - G

**oral cavity infections of dental origin**

- pressure sores from dental prostheses 1 - - - - -
- granulomas and fistulas 1 - - - - -
- abscess of the floor of the mouth 1 - - - - -

**other diseases of the oral cavity**

- lichen ruber planus 1 - - - - -
- Bowen's disease 1 - - - - -
- aphthous lesions 2 - - - - - G
- Koplik spots 1 - - - - -
- hypertrophic stomatitis 1 - - - - -

**special diseases of the salivary glands**

- Sjögren's syndrome 1 - - - - -
- sialadenosis 1 - - - - -
- Heerfordt syndrome 1 - - - - -

**trauma of the nose, the paranasal sinus and the anterior skullbase**

- fracture of the nasal pyramid 2 - - - - -

**traumas of the external ear**

- |  |   |   |   |   |   |   |
|--|---|---|---|---|---|---|
| - thermal injuries   | 2 | D | - | E | - | - |
| - injuries: laceration of ear, injury to external auditory | 1 | - | - | E | - | - |

**traumas of the larynx and the trachea**

- |  |   |   |   |   |   |   |
|--|---|---|---|---|---|---|
| - blunt and sharp external laryngeal trauma (with fractures of cartilage and structural displacements) | 1 | - | - | E | - | - |
| - damage due to endotracheal tube  | 1 | - | - | - | - | - |
| - foreign body in larynx and trachea   | 1 | - | - | E | - | - |
| - thermal and corrosive injuries   | 1 | - | - | E | - | - |

**traumas of the middle ear**

- |  |   |   |   |   |   |   |
|--|---|---|---|---|---|---|
| - Eustachien tube dysfunction                | 2 | D | T | - | - | G |
| - open ("flatulous") Eustachien tube         | 1 | - | - | - | - | - |
| - traumatic perforation of tympanic membrane | 1 | - | - | E | - | - |
| - luxation of ossicular chain                | 1 | - | - | - | - | - |
| - temporal bone fracture                     | 1 | - | - | - | - | - |
| - barotrauma                                 | 1 | - | - | E | - | - |

**traumas of the nose, the paranasal sinus and the anterior skullbase**

- |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|
| - orbital fractures (blow-out fracture) | 1 | - | - | - | - | - |
| - fracture of zygomatic arch            | 1 | - | - | - | - | - |
| - midfacial fractures                   | 1 | - | - | - | - | - |
| - frontobasal fracture                  | 1 | - | - | - | - | - |

**traumas of the oral cavity and the pharynx**

- |  |   |   |   |   |   |   |
|--|---|---|---|---|---|---|
| - injuries to teeth                                      | 1 | - | - | E | - | - |
| - thermal and caustic lesions of oral cavity and pharynx | 1 | - | - | E | - | - |
| - tongue bite  | 1 | - | - | E | - | - |
| - traumatic lesions of the palate                        | 1 | - | - | E | - | - |

**tumours of the external ear**

- |  |   |   |   |   |   |   |
|--|---|---|---|---|---|---|
| - spinalioma (squamous cell carcinoma) | 2 | - | - | - | - | - |
| - basalioma                            | 2 | - | - | - | - | - |

**tumours of the larynx**

- |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|
| - clinical symptoms of laryngeal carcinomas, incl. TNM staging system | 2 | - | - | - | - | - |
| - nodules, cysts, polyps, papillomas of the vocal cord and larynx     | 1 | - | - | - | - | - |

- indications for surgery and radiotherapy 1 - - - - -

### **tumours of the nose, the paranasal sinus**

- mucocoeles 1 - - - - -
- basalioma, spinalioma (squamous cell carcinoma), adenocarcinoma, neuroblastoma 1 - - - - -

### **tumours of the oral cavity and pharynx**

- benign tumours 1 - - - - -
- malignant tumours, TNM staging system 1 - - - - -
- indications for surgery and radiotherapy 1 - - - - -

### **tumours of the salivary glands**

- benign tumours of salivary glands 1 - - - - -
- malignant salivary gland tumours 1 - - - - -
- pleomorphic adenoma (benign mixed tumour) 1 - - - - -

## **Skills**

### **clinical examination of oral cavity and pharynx**

- endoscopy of pharynx 1
- palpation of the floor of the mouth, cheeks, tonsils and base of tongue 3
- inspection of lips, oral cavity and oral pharynx 3 G

### **clinical examination of the ear**

- inspection of the ear and adjacent region 4 G
- test of tubal function (motility of ear drum) 2 G
- ear irrigation 3 G
- palpation of auricle and mastoid 4 G
- ear microscopy 2
- otoscopy 4 G

### **diseases of the vestibular organ**

- vestibular rehabilitation 1

### **emergency treatment of dyspnea**

- tracheotomy 1
- dyspnoea in patients with tracheal canule 2
- coniotomy 2
- tracheal intubation 2

**emergency treatment of hemorrhages in the ENT domain**

- |   |   |  |
|---|---|--|
| - treatment of haemorrhage after tonsillectomy        | 2 |  |
| - anterior tamponade                                  | 2 |  |
| - treatment of other haemorrhages (after trauma etc.) | 1 |  |

**examination of the cervical region**

- |   |   |   |
|---|---|---|
| - palpation of lateral neck (from front)                  | 4 | G |
| - inspection and palpation of cervical structures         | 4 | G |
| - palpation of thyroid gland                              | 3 | G |
| - ultrasonographic examination of neck                    | 1 |   |
| - fine needle aspiration cytology of cervical lymph nodes | 1 |   |
| - palpation of anterior neck (from behind)                | 4 | G |

**examination of the nose, the paranasal sinus and the face**

- |   |   |   |
|---|---|---|
| - inspection and palpation of nose and face | 4 | G |
| - testing of sensibility (trigeminal nerve) | 3 | G |
| - posterior rhinoscopy                      | 1 |   |
| - endoscopy of nasal cavity                 | 2 |   |
| - anterior rhinoscopy                       | 3 | G |

**examination of the trachea and larynx**

- |   |   |   |
|---|---|---|
| - external inspection and palpation of larynx | 4 | G |
| - indirect pharyngo-laryngoscopy              | 3 |   |
| - direct fiberoptic laryngoscopy              | 1 |   |
| - microlaryngoscopy                           | 1 |   |
| - fiberoptic tracheobronchoscopy              | 1 |   |

**functional examination of oral cavity and pharynx**

- |                                 |   |  |
|---------------------------------|---|--|
| - testing of deglutition        | 2 |  |
| - testing of gustatory function | 1 |  |

**functional examination of the nose**

- |                                |   |  |
|--------------------------------|---|--|
| - testing of nasal respiration | 2 |  |
| - tests of olfactory function  | 2 |  |

**hearing test**

- |                                   |   |  |
|-----------------------------------|---|--|
| - acoustic evoked potentials      | 2 |  |
| - measurement of stapedius reflex | 1 |  |

Otorhinolaryngology	Skills	hearing test	
- speech audiometry		1	
- pure tone audiogram		2	
- tympanometry		1	
- distance of hearing for whispered and for conversational voice		3	G
- tuning fork tests		3	G
<b>microsurgery of the middle ear and the temporal bone</b>			
- mastoidectomy		1	
- petrosectomy		1	
- transtympanic ventilation tube (grommet)		1	
- stapedectomy / stapedotomy		1	
- tympano-ossiculoplasty		1	
<b>obstructive sleep apnoe syndrome</b>			
- CPAP-ventilation		1	
- uvulopalatopharyngoplasty		1	
<b>oesophagus examination</b>			
- stroboscopy		1	
- fiberoptic oesophagoscopy		1	
- endoscopy of the oesophagus		2	
- rigid oesophagoscopy		1	
- barium passage of oesophagus		2	
<b>salivary gland examination</b>			
- ultrasonographic examinations of salivary glands		1	
- fine needle aspiration cytology		1	
- bimanual palpation of submandibular glands		3	
- inspection and palpation of parotid gland and submandibular region		4	G
- sialography		1	
- inspection of excretory ducts of parotid gland (Stenon's duct) and submandibular gland (Warthon's duct)		3	
<b>surgical and endoscopic interventions on larynx and trachea</b>			
- cervical lymphadenectomy		1	
- laryngectomy		1	
- thyroidectomy		1	
- neck dissection		1	

- microlaryngoscopy

1

### **surgical treatment of salivary gland diseases**

- excision of submandibular gland
- parotidectomy

1

1

### **vestibular test**

- tests of coordination (finger-to-nose, diadochokinesis)
- caloric tests
- positional test, positioning tests
- induced nystagmus (rotation, optokinetic)
- spontaneous nystagmus
- Romberg test, Unterberger test
- clinical testing of facial nerve function

4

G

2

1

1

3

G

4

G

3

G

### **voice examination**

- rigid tracheobronchoscopy
- vocal status

1

2

## **Further Knowledge**

### **diseases of the vestibular organ**

- definition of vertigo and disequilibrium
- vestibular compensation
- peripheral and central vestibular dysfunction

1 - - - - -

1 - - - - -

2 - - - - -

### **disorders of taste**

- dysgeusia
- ageusia

1 - - - - -

1 - - - - -

### **hearing disorders**

- hearing aid fitting
- hearing loss: congenital and acquired
- presbycusis
- ototoxic hearing loss
- central hearing loss
- retrocochlear hearing loss
- conductive hearing loss
- sensory neural hearing loss

1 - - - - -

1 - - - - -

2 D - - - G

2 D - - P -

1 - - - - -

1 - - - - -

2 D - - - -

2 D - - - -

Otorhinolaryngology

Further Knowledge

hearing disorders

- cochlea implantation

1 - - - - -

- acoustic trauma and noise-induced hearing loss

2 D - - P -

# Radiology and Nuclear Medicine

## Further Knowledge

### contrast media

- types of contrast media	1	-	-	-	-	-
- types of adverse effects, prevention and treatment	2	-	-	-	-	-
- X-ray, MRI, US contrast media: pharmacokinetics, indications, contraindications	1	-	-	-	-	-

### informatics related to imaging

- matrix, geometric resolution	1	-	-	-	-	-
- contrast, viewing window	1	-	-	-	-	-
- postprocessing, data presentation	1	-	-	-	-	-

### legislation on imaging data and radiation protection

- radiation protection law	1	-	-	-	-	-
- practical X-ray protection	1	-	-	-	-	G
- administration of radioactive isotopes: radiation protection of patient and environment	1	-	-	-	-	-
- personal protection and monitoring (dose limits, typical dose to staff, associated risks, precautions)	1	-	-	-	-	G
- legal regulations on imaging data	1	-	-	-	-	-

### Magnetic Resonance Imaging (MRI)

- magnetism, radiofrequency	1	-	-	-	-	-
- relaxation times and other factors influencing signal characteristics	1	-	-	-	-	-
- safety considerations and contraindications	1	-	-	-	-	-
- signal characteristics of important tissues	1	-	-	-	-	-

### organ related radiopathology

- tracheobronchial diseases	1	-	-	-	-	-
- bone: periosteal reaction	1	-	-	-	-	-
- lung: alveolar consolidation	2	-	-	-	-	G
- soft tissue: calcification	1	-	-	-	-	G
- joints: erosions	1	-	-	-	-	G
- mediastinal and hilar lesions	1	-	-	-	-	-



- intracranial mass lesions (local, with compression of ventricles, with middle line shift, with brainstem compression)	1	-	-	-	-	-
- brain: defects or atrophy of parenchyma (local, general, with enlargement of ventricles)	1	-	-	-	-	-
- brain: enlargement of ventricles (local, general)	1	-	-	-	-	-
- brain and spinal canal: vascular abnormalities (filling defects, occlusions, abnormal vessels)	1	-	-	-	-	-
- brain and spinal canal: diffusion and perfusion abnormalities (local, general)	1	-	-	-	-	-
- intramedullary, extramedullary - intradural, extradural lesions	1	-	-	-	-	-
- joints: loss of joint space	2	-	-	-	-	G
- small bowel: solitary mass, dilatation	1	-	-	-	-	-
- pleural, extra-pleural and chest wall conditions	2	-	-	-	-	G
- pulmonary embolism incl. scintigraphy	1	-	-	-	-	-
- thyroid: scintigraphy (normal, cold and hot nodules)	1	-	-	-	-	-
- arteries: dilatation and wall changes	1	-	-	-	-	-
- arteries: stenosis, acute and chronic occlusion	1	-	-	-	-	-
- therapeutic strategies in vascular pathology	1	-	-	-	-	-
- veins: acute and chronic occlusion	1	-	-	-	-	-
- heart: fluid accumulation in the pericardial space and thickening of the pericardium	1	-	-	-	-	-
- liver: enlargement, focal lesion(s), portal hypertension	1	-	-	-	-	-
- biliary tract: enlarged gall bladder, small gall bladder, dilatation of biliary ducts	1	-	-	-	-	-
- pancreas: mass lesion, calcification(s)	1	-	-	-	-	-
- spleen: enlargement, focal lesion(s)	1	-	-	-	-	-
- sinonasal masses	1	-	-	-	-	-
- duodenum: dilatation	1	-	-	-	-	-
- appendix: mass lesion	1	-	-	-	-	-
- colon: solitary mass, segmental narrowing, dilatation, fistula	1	-	-	-	-	-
- peritoneal cavity: fluid, gas	1	-	-	-	-	-
- kidney: malformations, cystic and solid tumours, function abnormalities	1	-	-	-	-	-
- urinary obstruction (intraluminal, -mural, extramural)	1	-	-	-	-	-
- pelvic organs: cystic and solid tumours	1	-	-	-	-	-
- breast: malignant tumours	1	-	-	-	-	-
- bone: generalized and circumscribed sclerosis (incl. scintigraphy)	1	-	-	-	-	-
- bone: reduced density, generalized and circumscribed	1	-	-	-	-	-

Radiology and Nuclear Medicine	Further Knowledge	organ related radiopathology				
- bone: osteolysis (incl. scintigraphy)		1	-	-	-	-
- pulmonary nodules and masses		2	-	-	-	G
- lung: interstitial diseases		2	-	-	-	G
- stomach: abnormal position, filling defect, dilatation, motility disorders		1	-	-	-	-
<b>physics of nuclear medicine</b>						
- radio-isotopes and radio-tracers		1	-	-	-	-
- principles of gamma ray detection (scintigraphy, SPECT, PET)		1	-	-	-	-
- physical and biological half-life		1	-	-	-	-
<b>physics of X-ray and types of radiation used</b>						
- production of radiation (generator, tube)		1	-	-	-	-
- components of environmental radiation		1	-	-	-	-
- basic physics of the X-ray process		1	-	-	-	-
- types of radiation		1	-	-	-	-
- attenuation law		1	-	-	-	-
- principles of X-ray detection		1	-	-	-	-
<b>principles of radio-oncology</b>						
- natural tumour development, tumour classification and TNM principles		2	-	-	-	-
- techniques in radio-oncology		1	-	-	-	-
- treatment planning in radio-oncology		1	-	-	-	-
<b>risks from exposure to ionizing radiation</b>						
- explaining radiation risks to patients and informed consent for exposure		2	-	-	-	G
- calculation of effective and organ dose		1	-	-	-	-
- exposure situations (population, individual person, professional person, patient)		2	-	-	-	G
<b>special uses of radiology</b>						
- screening by mammography, bone densitometry		1	-	-	-	-
- interventional radiology: classification, indications and risks		1	-	-	-	-
<b>systematic radioanatomy</b>						
- gastrointestinal tract		1	-	-	-	-
- peritoneal cavity, retro- and extraperitoneal space		1	-	-	-	-
- bones and joints		1	-	-	-	G

- arteries and veins	1	-	-	-	-	-
- urinary tract, female and male genital tract	1	-	-	-	-	-
- spine	1	-	-	-	-	-
- ENT organs	1	-	-	-	-	-
- upper airway – upper digestive tract	1	-	-	-	-	-
- heart	2	-	-	-	-	G
- lower airways - lung	2	-	-	-	-	G
- esophagus, mediastinal structures	1	-	-	-	-	-
- extremities	2	-	-	-	-	G
- shoulder girdle	2	-	-	-	-	-
- pelvis and hip	2	-	-	-	-	-
- brain	1	-	-	-	-	-
- ribs	2	-	-	-	-	G
- hepatobiliary system, pancreas and spleen	1	-	-	-	-	-

### technical parameters of Computed Tomography (CT)

- enhancement of normal and diseased tissues	2	-	-	-	-	-
- detector	1	-	-	-	-	-
- density of tissues (Hounsfield units)	2	-	-	-	-	-
- CT-guided intervention (CT-fluoroscopy)	1	-	-	-	-	-
- image generation (back projection, spiral CT, multislice CT)	1	-	-	-	-	-

### technical parameters of conventional radiography

- fluoroscopy	1	-	-	-	-	-
- conventional analogue X-ray detection (screens, development)	1	-	-	-	-	-
- scatter (use of diaphragms, grids)	1	-	-	-	-	-
- influence of physico-technical parameters on image quality (contrast, geometrical resolution)	1	-	-	-	-	-
- digital radiographic X-ray detection	1	-	-	-	-	-
- conventional examinations using contrast agents	1	-	-	-	-	-

### technical parameters of Ultrasonography (US)

- basic physics of image formation, Doppler effect	1	-	-	-	-	-
- advantages and drawbacks of US versus other imaging modalities	2	-	-	-	-	-
- the probe (piezo-electric effect, crystals)	1	-	-	-	-	-
- propagation and reflection of US waves	1	-	-	-	-	-

**topographic and functional radioanatomy**

- conventional radiography, US, CT, MRI
- angiography, fluoroscopy, nuclear medicine

1 - - - - -

1 - - - - -

# Public Health, Insurance- and Occupational Medicine

## Skills

### community- oriented prevention

- formulation of medical input in a multidisciplinary team 2
- performance of several interventions in the domain of primary, secondary and/or tertiary prevention, e.g. immunization, periodical medical examinations, social medical support and management, prevention of accidents and setting-up of a program or plan 2
- recognition of hazardous behavior and lifestyle in a community 2 G
- giving health advice to groups and communities 2
- active approach to health problems / designing a program for intervention 2

### epidemiology and demography

- recognition of threats and severity of threats to the health of individuals and groups 3
- assessment of the degree to which a study meets the requirement of causation 3

### individual prevention

- identification of hazardous behavior and of a dangerous lifestyle in an individual 3 G
- giving health advice to individuals 3 G
- counseling individuals who want to give up smoking 3 G

### investigations in occupational medicine

- exercise ECG testing 1
- performing an ECG 3 G
- taking a workplace history 3 G
- taking an occupational case history 3 G
- performing a hearing test 1 G

### occupational medicine: general principles, fundamental aspects of work

- indication, specific role and limits of preventive routine screening and advice (upon being hired and thereafter) 1

- prevention principles in the workplace: Replacing a hazardous product or process, working in a closed environment, source diversion, personal protection, workplace or job rotation 1
- steps to be taken when discovering a health problem which might be attributable to one's work; in reference to individual and group 2

## Further Knowledge

### Accident Insurance

- structure, main tasks and key features of the Swiss National Accident Fund (SUVA) 1 - - - - -
- coordination provisions of accident insurance 1 - - - - -
- curtailing of benefits 1 - - - - -
- criteria for receiving daily sickness benefits 1 - - - - -
- insured events and items (accident, non-occupational accident, occupational illness) 2 - - - - G
- accident-like injuries 1 - - - - -
- occupational illness criteria 2 - - - - -
- accident insurance pensions and integrity compensation 1 - - - - -
- basic principles and legal foundations of the Accident Insurance Act (UVG) 2 - - - - G
- most frequent occupational and non-occupational accidents 1 - - - - -
- collaboration of UVG insurers with other social insurance providers 1 - - - - -
- registration procedure and physicians's obligations 2 - - - - -
- arbiter levels in disputes between UVG insurers and health care providers or patients 1 - - - - -
- approximate costs associated with medical care, monetary benefits, prevention pursuant to the Accident Insurance Act (UVG) 1 - - - - -
- obligation to prevention on the part of employers and employees 1 - - - - -
- benefit principle and form (tiers payant) of accident insurance 1 - - - - -

### accidents

- accident rates by age group and gender 2 - - - - -
- most common types and causes of accidents (work, household, traffic, sports) and attributable costs 2 - - - - G
- most relevant accidental injuries from infancy to adolescence 1 - - - - -

- loss of potentially active years of life up to age 65 in Switzerland due to motor vehicle accidents (breakdown according to gender) 1 - - - - -

### air pollutants

- objectives of the Clean Air Ordinance and relevance of the defined threshold values 1 - - - - -
- combined effect of multiple air pollutants 2 - - - - -
- nitrogen and sulfur oxides (NO<sub>2</sub> and SO<sub>2</sub>), ozone, lead, cadmium, fluorine, volatile organic compounds (VOC), carbon monoxide and halogens, contaminants in room air, passive smoking, radon, formaldehyde 2 - - - - -
- fine dust & airborne dust 1 - - - - -
- fiscal and political factors affecting the concentrations of noxious substances in the air 1 - - - - -
- protective measures for exposed individuals 1 - - - - -
- individuals at risk of exposure 2 - - - - G

### basic principles of social medicine

- significance of and relation between social class, social role, social status and social mobility 1 - - - - -
- influence of life-events and other social stressors on health 2 - - - - G
- factors affecting life style and behaviour: culture, education, income, family, etc. 1 - - - - -
- minorities: specific health problems, access to health care, communication and values 1 - - - - -
- methods of classifying (social strata, gender, ethnic group etc.) 1 - - - - -
- social and age-related causes for differences in mortality and morbidity 2 - - - - -
- importance of psychosocial aspects for preventive strategies 2 - - - - G

### damage to the respiratory tract

- humidifier disease 1 - - - - -
- allergic alveolitis (farmer's lung) 1 - - - - -
- occupational asthma (flour, isocyanate, laboratory animals) 2 - - - P -
- pneumoconiosis (quartz dust, asbestos) 2 - - - P -

### demographic and health indicators

- birth and death statistics in Switzerland 1 - - - - -
- health data: survey instruments, scope, purposes, recording methods and institutions 1 - - - - -

Public Health, Insurance- and Occupational	Further Knowledge	demographic and health indicators
- indicators: lost years of life, preventable mortality, infant mortality, etc.		1 - - - - -
- life expectancy by gender and social strata in		2 - - - - -
- age-standardised indicators of health		2 - - - - -
- past, present and predicted trends and main factors contributing to the present demographic development in Switzerland and the world		1 - - - - -
- infant mortality and its causes in the industrial and developing countries		1 - - - - -
- residential population, birth rate, death rate, life expectancy, demographic transition		2 - - - - -
<b>disabilities</b>		
- promoting integration into society and work force of handicapped persons		2 - - - - -
- sustained social support for disabled persons and for their kins		1 - - - - -
- prevention of neural tube defects		1 - - - - -
- impact of birth weight on future disability		1 - - - - -
- incidence of common congenital deformities		1 - - - - -
<b>Disability Insurance Scheme (IV)</b>		
- arbiter levels in disputes between the Disability Insurance Scheme (IV) and patients		1 - - - - -
- extent and duration of benefits		2 - - - - -
- prerequisites for a pension and other benefits		2 - - - - -
- funding bodies and their approximate share		1 - - - - -
- organisation of the Disability Insurance Scheme (IV) and the main tasks of cantonal IV agencies		1 - - L - -
- registration formalities and procedures		1 - - - - -
- physician's role/issuing of expert reports in connection with patients receiving benefits under the Disability Insurance Scheme (IV), medical and occupational assessment agencies		1 - - - - -
- covered benefits		2 - - - - -
- reintegration measures		2 - - - - -
- assessment of disability		1 - - - - -
- objectives, key concepts and legal foundations of disability insurance		2 - - - - -
<b>epidemiological methods</b>		
- significance of p-value and the confidence interval		2 - - - - -
- prevalence, incidence, mortality, lethality, and their interrelations		2 - - - - -



- mortality variables (mortality rate, life expectancy, lethality)	2	-	-	-	-	-
- attack rate, cumulative incidence rate	1	-	-	-	-	-
- relative risk (incidence ratio and odds ratio)	2	-	-	-	-	-
- additional risk variables (attributable risk, risk difference)	2	-	-	-	-	-
- classification of variables according to type of data (discrete, qualitative, etc.)	2	-	-	-	-	-
- purpose of the significance tests	2	-	-	-	-	-
- survival curves	1	-	-	-	-	-
- main concepts, advantages and disadvantages of the various types of studies	2	-	-	-	-	-
- distortion or bias (incl. common reasons for distortion and interference effects)	2	-	-	-	-	-
- causality criteria	1	-	-	-	-	-
- data set description: data distribution, mean value, median, variability	2	-	-	-	-	-

### epidemiology of infectious diseases, overall concepts

- reporting systems: mandatory reporting, sentinels, surveys (advantages and disadvantages)	1	-	-	-	-	-
- interpretation of an incidence curve of an epidemic	2	-	-	-	-	-
- economic importance of infectious diseases	1	-	-	-	-	-
- significance of infectious diseases in Switzerland with respect to morbidity, mortality and lost years of life	1	-	-	-	-	-
- modern population-based and risk-group-based measures and their impact on society, e.g. measles-mumps-rubella campaign, AIDS campaign, sterile hypodermic needles and syringes	2	-	-	-	-	-
- important personal measures: personal hygiene, control measures, active and passive immunization, exclusion from workplace, etc.	1	-	-	-	-	-
- important population-based and group-related measures for recording and preventing the spread of infections: border health examinations, screening, isolation, exposure prophylaxis (e.g. at schools and universities), drinking water monitoring, etc.	1	-	-	-	-	-
- features of infectious diseases: occurrence, forms of transmission (e.g. contact, droplets, aerosols, vehicles and vectors), risk factors.	2	-	-	-	-	G
- mandatory reporting: who has to report what when and to whom	2	-	-	-	-	G
- surveillance of infectious disease: legal basis and aims (Article 69 + 69bis of the Swiss Constitution, Law on Epidemics. Reporting Ordinance)	2	-	-	-	-	-

- |  |   |   |   |   |   |   |
|--|---|---|---|---|---|---|
| - epidemiology of infectious diseases: virulence, resistance, pathogenicity, contamination, colonization, infection, carrier, incubation time, contagion index, primary and secondary attack rate, test sensitivity, exposure, immunization, focal immunity, sporadic occurrence, epizoonosis, interpretation of an epidemic curve | 2 | - | - | - | - | - |
| - how an outbreak of disease can be recognized, investigated and brought under control   | 1 | - | - | - | - | - |

### **ergonomics and work organization, unemployment**

- |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|
| - possibilities for promoting health at the workplace | 2 | - | - | - | P | G |
| - substance abuse at the workplace                    | 2 | D | - | - | P | G |

### **evaluation in public health**

- |  |   |   |   |   |   |   |
|--|---|---|---|---|---|---|
| - evaluation and promotion of quality of care      | 1 | - | - | - | - | - |
| - program planning and evaluation in public health | 1 | - | - | - | - | - |

### **expert opinions**

- |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|
| - role and function of medical experts and expert opinion | 1 | - | - | L | - | - |
| - duties and rights of medical referees (Vertrauensärzte) | 1 | - | - | - | - | - |

### **global aspects of health**

- |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|
| - major differences between the developing and developed countries with respect to structure and cost of the health care system | 1 | - | - | - | - | - |
| - important global challenges for health: drinking water, AIDS, poverty, environment  | 2 | - | - | - | - | - |
| - important factors contributing to different weights attributed to public health in the developing and developed countries     | 1 | - | - | - | - | - |
| - role and responsibilities of the World Health Organization (WHO) and its regional offices                                     | 2 | - | - | - | - | - |
| - different nutritional styles and their impact on the global food situation  | 2 | - | - | - | - | - |

### **health and health promotion in older individuals**

- |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|
| - important ethical and cultural aspects of appropriate medical care for the elderly  | 1 | - | - | - | - | G |
| - important preventive medical measures for the elderly   | 1 | - | - | - | - | - |
| - current life expectancy and trends among individuals 60 years of age and older in Switzerland in comparison with other developed and developing countries | 2 | - | - | - | - | - |
| - mortality among persons over 65 years of age by causes and 10-year groups   | 1 | - | - | - | - | - |

**health care economy**

- percentage of gross domestic product claimed by health care expenditures in Switzerland; comparison with the USA, Germany and France	1	-	-	-	-	-
- political control of cost containment in health care	2	-	-	-	-	-
- socioeconomic burden of illness: direct, indirect, intangible costs	2	-	-	-	-	-
- funding of the Swiss health care system by contributors	1	-	-	-	-	-
- expenditures of the Swiss health care system by main provider groups (in percent)	1	-	-	-	-	-
- trends and primary determinants of health care expenditures in the past 25 years in Switzerland	2	-	-	-	-	-
- effects of health care remuneration on the costs of hospital and ambulatory services	2	-	-	-	-	G

**health services**

- role of non-governemental-organisations in health care (e.g. Swiss Red Cross, Cancer League)	1	-	-	-	-	-
- legal basis of licensing of health professionals	1	-	-	-	-	-
- tasks of Health Leagues	1	-	-	-	-	-
- laws and ordinances concerning epidemics, radiation protection, labor	1	-	-	-	-	-
- Health Insurance Law (KVG): aspects of prevention	1	-	-	-	-	-
- structural characteristics and history of the Swiss health care system	1	-	-	-	-	-
- main functions and competencies of the national, cantonal and municipal governments	2	-	-	-	-	-
- substances falling under the Narcotics Law	1	-	-	-	-	-
- responsibilities of organised home care (Spitex)	1	-	-	-	-	G

**human nutrition**

- malnutrition in the elderly as a health risk	1	-	-	-	-	-
- overweight and obesity: epidemiology and prevention in developed countries	2	-	-	-	-	G
- recommendations for prevention of osteoporosis	1	-	-	-	-	-
- benefits of breast-feeding	1	-	-	-	-	-
- composition of a healthy diet	2	-	-	-	-	G
- epidemiology and prevention of nutritional problems in the developed and developing countries	2	-	-	-	-	-

**insurance medicine: general introduction, concepts, financing and costs**

- insurance types and forms: personal, property and liability insurance, social and private, compulsory,	2	-	-	-	-	-
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- health care costs and main financing forms

1 - - - - -

### interventional methods

- population and risk carrier strategies
- primary, secondary and tertiary prevention
- health education, health promotion and the underlying definition of health
- approaches to personal prevention and health promotion
- individual counseling by personal physician
- criteria for the use of screening examinations
- fundamentals of diagnostic tests: sensitivity, specificity, positive and negative predictive value

1 - - - - -  
 2 - - - - G  
 1 - - - - -  
 1 - - - - G  
 2 - - - - G  
 2 - - - - G  
 2 - - - - -

### life style

- life style: health and disease
- promoting healthy life-style

2 - - - - G  
 2 - - - - G

### medical practice: legal aspects and liability, patient's rights

- legal foundations of liability
- service contract between physician and patient
- prerequisites for liability (malpractice, injury/damage, sufficient causal relationship, negligence on the part of the physician)
- criteria for malpractice

1 - - L - -  
 1 - - L - -  
 1 - - L - -  
 2 - - - - -

### Military Insurance Scheme (MV)

- arbiter levels in disputes between the Military Insurance Scheme (MV) and patients
- catalogue of benefits and coordination with other insurance coverage
- items covered and conditions for coverage
- objectives, legal foundations and key features of military insurance
- physician's disclosure obligation toward the Military Insurance Scheme (MV)

1 - - - - -  
 1 - - - - -  
 2 - - L - -  
 1 - - - - -  
 1 - - - - -

### mortality statistics

- main risk factors for malignancies of the upper respiratory and GI tract, esophagus and urinary bladder
- swiss suicide rate in comparison with other countries
- approximate curve of deaths in both sexes due to cardiovascular disease and cancer during the past 40 years

2 - - - - -  
 1 - - - - -  
 2 - - - - -

- age-standardized death rate due to ischemic heart disease and cancer in Switzerland compared to international figures 2 - - - - -
- addictions with the largest economic impact 1 - - - - -
- number of deaths due to drugs, alcohol and tobacco annually in Switzerland 2 - - - - -

### **nosocomial infections and infectious hazards for medical personnel**

- problem of antibiotic resistant microorganisms in the hospital 1 - - - - -
- basic principles of prophylaxis and general preventive measures (hand-washing, asepsis, sterilization and disinfection) and specific precautionary measures to be taken before every high-risk procedure (e.g. surgical interventions, urine probes, catheters, endoscopy etc.) 2 - - - - G
- most important diseases and carrier states requiring isolation, including multiresistent microorganisms 1 - - - - -
- microbial reservoirs (patients, personnel, environment) and routes of transmission in hospitals, outpatient practice, by direct and indirect contact, droplets, aerosols and other vehicles 1 - - - - -
- important infectious hazards and routes of exposure of medical personnel: viral hepatitis, HIV, tuberculosis, influenza. Preventive measures, e.g. immunization, general precautions, isolation, etc. 2 - - - - G
- measures after occupational exposure, e.g. in case of blood-borne microorganisms 2 - - - - -

### **occupational carcinogens**

- aromatic amine 2 D T L P G
- benzene 1 - - - - -
- asbestos 1 - - - P -
- sawdust 1 - - - P -

### **occupational dermatitis**

- allergic contact dermatitis 2 D T - P G
- toxic contact dermatitis 2 D T - P G

### **occupational illnesses: biological hazards**

- infectious diseases, particularly in the healthcare professions, laboratory work and research 2 D - - P G

### **occupational illnesses: chemical hazards**

- mercury 2 - - - P -
- lead 1 - - - P -
- carbon monoxide 2 D - - P -

- solvents 2 - - - P -

### occupational illnesses: physical hazards

- noise 1 - - - - G  
 - electromagnetic fields 1 - - L - -  
 - vibration 2 D - - P -

### occupational medicine: general principles, fundamental aspects of work

- occupational safety limits published by the Swiss National Accident Fund (SUVA) (MAC values, BAT) 1 - - L P -  
 - prevalence of key occupational illnesses recognized under the Accident Insurance Act (UVG), e.g. locomotor system, skin, respiratory system 1 - - - - -  
 - job-related health problems (such as visual disturbances, back pain, musculoskeletal problems, impairment of mental well-being, absenteeism related to ergonomic and psychosocial work conditions and shift 2 D - - P -  
 - Accident Insurance Act (UVG) and associated 1 - - L - -  
 - responsibility of companies for maintaining healthy working conditions 1 - - L - -  
 - mandate and function of the implementation bodies related to the Accident Insurance Act (UVG) and Labor Act (ArG) (Swiss National Accident Fund (SUVA), cantonal and federal labor inspectorates) 1 - - L - -  
 - function of occupational health services 1 - - - - -  
 - significance of job-related accidents in various occupational groups 2 - - - - -  
 - Labor Act (ArG) and associated ordinances 1 - - L - -

### physical hazards

- sources of radioactive emissions in Switzerland 1 - - - - -  
 - environmental noise 1 - - - - -  
 - nuclear accidents 1 - - - - -  
 - UV radiation (including decrease in stratospheric ozone) 2 - - - - -  
 - magnetic and electrical fields 2 - - - - -

### physical inactivity

- epidemiology, health risk and prevention of physical inactivity 2 - - - - G

### preventive measures against infectious diseases

- Swiss Immunization Schedule for children, adults and travelers 2 - - - - G

Public Health, Insurance- and Occupational	Further Knowledge	preventive measures against infectious diseases					
- characteristics, indications, contraindications, adverse events, application of routine immunizations and immunizations for certain target groups (i.e. poliomyelitis, measles, mumps, rubella, hepatitis A, hepatitis B, influenza, tetanus)		2	-	-	-	-	G
- infectious diseases of migrant workers and political refugees		1	-	-	-	-	-
- degree and duration of immunity conferred by immunization in the individual and in the population (focal immunity)		1	-	-	-	-	-
- examples where counseling about infections is indicated: nursing mothers and newborns, population at large (HIV, gonococci, etc.).		1	-	-	-	-	-
- frequent infections of travelers to developing countries: e.g. traveler's diarrhea, malaria, forms of hepatitis, typhoid fever)		2	-	-	-	-	G

### Private Insurance

- key features of private insurance		2	-	-	-	-	-
- arbiter levels and levels of legal authority pertaining to private insurance in disputes		1	-	-	-	-	-
- right of policy cancellation subsequent to a claim		2	-	-	-	-	-
- objectives, legal foundations and the supervisory authorities		2	-	-	-	-	-
- underlying principle of individual risk (no solidarity)		2	-	-	-	-	-
- the policy as an insurance contract: insured risks (items), benefits and premiums		2	-	-	-	-	-
- key insurance areas		1	-	-	-	-	-

### recording and prevention of important infections

- preventive measures (e.g. campaigns, individual protective measures) against the spread of sexually transmitted diseases		1	-	-	-	-	-
- problem of antibiotic-resistant microorganisms in outpatient medicine		1	-	-	-	-	-
- high-risk groups, behavior and factors predisposing to the spread of sexually transmitted diseases		1	-	-	-	-	-
- measures aimed at interrupting transmission (contacts, vehicles and vectors; isolation, chemical prophylaxis and immunization prophylaxis)		2	-	-	-	-	G
- most important anthroozoonoses (enteropathogenic infections, Q Fever, tick-borne encephalitis, Lyme Disease, rabies, toxoplasmosis, toxocariosis, echinococcosis) and their geographical distribution		1	-	-	-	-	-
- exposure history to the antroozoonoses and assessment of the risk of infection (occupation, household, animal contacts)		1	-	-	-	-	-
- most important sexually transmitted infections (gonorrhoea, syphilis, HIV, chlamydia)		1	-	-	-	-	-

**social and private health insurance**

- goal and duty of cost transparency, requirement of cost effectiveness in healthcare treatment	2	-	-	-	-	-
- conditions for entitlement to loss-of-income/daily sickness benefit	1	-	-	-	-	-
- legal foundations of the Health Care systems	2	-	-	-	-	-
- specified lists: Pharmaceuticals List (ALT), Specialty List (SL), Analysis List (AL) and the Negative List	1	-	-	L	-	-
- organizational forms of health insurers	1	-	-	-	-	-
- social insurance coverage	2	-	-	-	-	G
- key performance criteria (expedient and cost-effective)	1	-	-	-	-	-
- key objectives and basic principles of the Health Insurance Act (KVG)	2	-	-	-	-	-
- insured benefits for the purpose of individual disease prevention and health promotion	2	-	-	-	-	-
- main insurance models (classic health insurance and new models)	2	-	-	L	-	-
- financing of health insurance, public subsidies and funding bodies involved	1	-	-	-	-	-
- cost sharing and copayments	2	-	-	-	-	-
- private supplemental insurance	1	-	-	-	-	-
- role of the health insurer's medical examiner/referee	1	-	-	-	-	-
- conditional right of the free choice of physician and hospital	1	-	-	-	-	-
- legal proceedings between the patient and health insurer or healthcare provider and patient	1	-	-	-	-	-
- rough costs of health insurance schemes and their economic significance	1	-	-	-	-	-

**water and soil pollutants**

- water and soil pollution: microbes, ammonia, nitrites, nitrates, pesticides and chlorofluorocarbons (CFC's)	2	-	-	-	-	-
- methods for drinking water purification (filtration, chlorination, ozone treatment)	1	-	-	-	-	-



# Forensic Medicine

## Clinical Picture

### dead body

- possibility of sham/apparent death	2	D	C	-	-	-
- death signs (livores, rigor, decomposition)	2	D	C	-	-	G
- natural death	2	D	C	-	-	G
- non-natural or undetermined death	2	D	C	L	-	G
- estimation of time of death (postmortem changes)	2	-	-	-	-	G
- establishment of manner of death (accident, suicide, homicide, natural death)	1	-	-	-	-	-
- establishment of cause of death	2	-	-	L	-	-
- supravital reactions	1	-	-	-	-	-
- indications for forensic autopsy and duty of notification of death to police/judge	2	D	C	L	-	G

### death of a child

- sudden infant death syndrome	1	-	-	L	-	-
- battered child syndrome	1	-	-	L	-	-
- still-birth	1	-	-	L	-	-

### forensic alcoholology

- alcohol intoxication	2	D	C	L	-	-
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### forensic traumatology

- drowning	1	-	-	-	-	-
- shaken baby syndrome	1	-	-	L	-	-
- traffic injuries of vehicle passengers	2	-	-	L	-	-
- traffic injuries of pedestrians	2	-	-	L	-	-
- injuries by lightning	1	-	-	-	-	-
- electrical injury	1	-	-	-	-	-
- thermal injury	1	-	-	-	-	-
- death by choking (Bolustod)	1	-	-	L	-	-
- aspiration	2	-	-	-	-	-
- self-inflicted injury/mutilation, second party-inflicted/accidental injury	1	-	-	-	-	-
- bite wounds	1	-	-	L	-	-

- physical and biomechanic principles	1	-	-	-	-	-
- types of strangulation	1	-	-	-	-	-
- capacity of acting after trauma (Handlungsfähigkeit)	1	-	-	L	-	-
- blunt trauma to the skin, long bones and head	2	-	-	-	-	-
- injuries by sharp objects	2	-	-	L	-	G
- gun shots	1	-	-	-	-	-
- asphyxia	2	-	-	-	-	-

### **injuries due to chemical causes**

- intoxication by gases: CO, CO2, CN, H2S	2	-	-	L	-	-
- intoxication by poisons of plants, mushrooms and	1	-	-	-	-	-
- intoxication by illegal drugs	2	-	-	L	-	-
- intoxication by psychotropic drugs	2	D	C	L	-	-
- intoxication by opiates, opioids	2	-	-	L	-	-
- intoxication by cyanide	1	-	-	-	-	-

### **legal aspects of injury (StGB)**

- severe injury (schwere Körperverletzung)	1	-	-	L	-	-
- intention (Vorsatz)	1	-	-	L	-	-
- maltreatment (Misshandlung)	2	D	C	L	-	G
- mild injury (einfache Körperverletzung)	1	-	-	L	-	-
- negligence (Fahrlässigkeit)	1	-	-	L	-	-

### **parentage testing**

- uncertain parentage	2	-	-	L	-	-
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### **sexual offences**

- sexual abuse in adult	2	-	-	L	-	-
- sexual abuse in child	2	-	-	L	-	-

## **Skills**

### **investigation of dead body**

- identification in mass disasters	1					
- diagnosis of clinical death	3					G
- diagnosis of cerebral death	1					
- diagnosis of cardiac death	3					G
- filing of death certificate	2					G
- external examination of dead body (Leichenschau)	2					

- legal external inspection (Legalinspektion) 1
- identification of dead body 1
- vital reactions 1
- estimation of wound age 1
- ano-genital examination 1
- estimation of the time of death (livores, rigor mortis, rectal temperature) 2
- examination of the eyes (double ectropination of the eyelids) 1
- collection of specimens and protection of biological evidence 2

### investigation of living persons

- assessment of ability to judge (Urteilsfähigkeit) 2
- sampling of blood and buccal swabs for DNA-analysis 1
- expert opinion (Gutachten) 1
- assessment of current fitness to drive (Fahrfähigkeit), e.g. under the influence of alcohol, drugs, disease and fatigue 3 G
- assessment of aptitude to drive (Fahreignung) 3 G
- sampling of vaginal-, anal- and skin-swabs for DNA-analysis 1
- sampling of blood and urine for toxicological analysis 3
- investigation of battered children 1
- examination and evaluation of wounds and stains 2 G
- examination of persons under the influence of alcohol and/or drugs 3 G
- sampling of tissues 1

### legal investigation at scene

- evaluation of the cause and manner of death 2

## Further Knowledge

### aptitude and fitness to drive

- minimal medical standards for drivers 1 - - L - -

### forensic alcoholology

- metabolism of ethanol 2 D - - - -

### forensic traumatology

- traffic injuries: biomechanics 1 - - - - -

**injuries due to chemical causes**

- |                              |   |   |   |   |   |   |
|------------------------------|---|---|---|---|---|---|
| - pathways of poisons        | 1 | - | - | - | - | - |
| - principles of intoxication | 1 | - | - | L | - | - |

**investigation of living persons**

- |  |   |   |   |   |   |   |
|--|---|---|---|---|---|---|
| - formal and legal pre-requisites of a medical certificate (Zeugnis) | 2 | - | - | L | - | G |
|--|---|---|---|---|---|---|

**professional duties and responsibilities**

- |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|
| - involuntary admission (Fürsorgerischer Freiheitsentzug) | 2 | - | - | L | - | - |
| - legal aspects of personality (Persönlichkeitsrechte,    | 1 | - | - | L | - | - |
| - abortion  | 1 | - | - | L | - | - |
| - medical duties in emergencies                           | 2 | - | C | L | - | G |

## 8. Index

### 5

- 5-HT<sub>1</sub>-receptor agonists ( ..... 53
- 5-HT<sub>3</sub>-receptor antagonists ..... 54

### 7

- 70% aethanol ..... 56

## A

- A<sub>2</sub>-receptor-antagonists (sartans) ..... 55
- abdominal aortic aneurism ..... 45
- abdominal apron ..... 60
- abdominal reflexes ..... 51
- abnormal patellary cartilage ..... 66
- abortion ..... 88, 139
- abruptio placentae ..... 88
- abscess of hair follicle or sebaceous gland ..... 89
- abscess of the floor of the mouth ..... 112
- absence seizures ..... 42
- abuse and neglect ..... 39, 84
- accident rates by age group and gender ..... 125
- accidental ingestion or inhalation ..... 75
- accident-like injuries ..... 125
- ACE-inhibitors ..... 55
- acetyl-cystein ..... 55
- achalasia ..... 38, 66
- Achilles tendinitis ..... 36
- achondroplasia ..... 36, 81
- acne ..... 25, 82, 106
- acoustic evoked potentials ..... 115
- acoustic neurinoma (vestibular schwannoma) ..... 108
- acoustic trauma and noise-induced hearing loss ..... 118
- acrodermatitis chronica atrophicans/lymphocyt. .... 104
- acromegaly ..... 37
- actinic dermatitis ..... 105
- actinic keratosis ..... 106
- activated charcoal ..... 54
- active and passive physiotherapy ..... 34
- acuminate condyloma ..... 107
- acute abdomen ..... 27, 60, 71, 75
- acute and chronic renal failure ..... 76
- acute and chronic tracheitis ..... 110
- acute aortic dissection ..... 63
- acute appendicitis ..... 60
- acute arterial occlusion ..... 61
- acute asthma ..... 44
- acute bronchitis ..... 44
- acute cholecystitis ..... 62
- acute complications of diabetes mellitus ..... 38
- acute external otitis ..... 110
- acute glaucoma ..... 97
- acute glomerulonephritis ..... 44
- acute laryngitis ..... 110
- acute leukaemia ..... 40, 77
- acute leukaemia, myeloblastic, lymphoblastic ..... 77
- acute lymphangitis and lymphadenitis ..... 64
- acute osteomyelitis ..... 36, 64
- acute otitis media ..... 111
- acute pancreatitis ..... 66
- acute pharyngitis ..... 111
- acute renal failure ..... 44
- acute rhinitis ..... 110
- acute rhinosinusitis ..... 110

- acyclovir ..... 55
- addictions with the largest economic impact ..... 132
- adenoidal and tonsillar hypertrophy ..... 82
- adenomyosis ..... 86
- adhaesions ..... 60
- adhesions of labia ..... 76
- administration of analgesics ..... 72
- adolescent/cognitive and social development ..... 83
- adrenal insufficiency ..... 76
- adrenalin ..... 56
- adreno-cortical failure ..... 37
- adrenogenital syndrome ..... 37, 76
- adult respiratory distress syndrome (ARDS) ..... 44
- advance directives ..... 24, 39
- adverse effects of ionizing radiation on fetu ..... 81
- adverse effects of maternal medication on fet ..... 81
- advice about life-style ..... 50
- advice on hygiene ..... 92
- advise about contraception ..... 90
- affect ..... 7, 95
- agammaglobulinaemia ..... 77
- age-standardised indicators of health ..... 127
- ageusia ..... 117
- aggression and suicidality ..... 95
- agranulocytosis ..... 40
- agranulocytotic angina ..... 111
- AIDS ..... 40, 78, 106, 109, 110, 128, 129
- albendazol / mebendazol ..... 55
- alcohol intoxication ..... 41, 136
- alcoholic hepatitis ..... 37
- alcohol-related disorders ..... 93
- allergic alveolitis (farmer's lung) ..... 126
- allergic contact dermatitis ..... 103, 132
- allergic pulmonary disease ..... 44
- allergic rhino-conjunctivitis ..... 78
- allergic vasculitis ..... 103
- allergic, pseudoallergic and idiosyncratic AD ..... 56
- allopurinol ..... 57
- alopecia areata, androgenic, non-/cicatrical ..... 104
- ALTE (acute life threatening event) ..... 75
- ambiguous genitalia ..... 79
- amblyopia ..... 99
- aminoglycosides ..... 58
- amiodaron ..... 55
- amniocentesis ..... 92
- amoebiasis ..... 37, 40
- amoebiasis of liver ..... 37
- amoebic liver abscess ..... 64
- amoxycillin-clavulanic acid ..... 58
- amphetamin overdose ..... 35
- amphetamine-related disorders ..... 94
- amphotericin B ..... 55
- amyotrophic lateral sclerosis ..... 43
- anaemia associated with chronic diseases ..... 39
- anal atresia ..... 67, 80
- anal fissure ..... 67, 76, 106
- anal fissures ..... 76
- anal reflex ..... 51
- analgesia in disaster situations ..... 74
- anaphylactic reaction ..... 40
- anencephaly ..... 79
- aneurysm of abdominal aorta ..... 60
- aneurysm of thoracic aorta ..... 61
- angina pectoris ..... 46
- angiodysplasia of colon ..... 38
- angio-oedema ..... 103

animal bites.....	63	assessment of position sense.....	52
anisometropia.....	98	assessment of range of joint motion.....	47
ankylosing spondylitis.....	36	assessment of range of motion of joints.....	47
annular pancreas.....	66	assessment of refraction, subjective.....	100
ano-genital examination.....	138	assessment of results of semen examination.....	90
anterior chamber, inspection.....	100	assessment of sense of pain.....	52
anterior epistaxis.....	109	assessment of sense of smell.....	51
anterior rhinoscopy.....	115	assessment of sense of temperature.....	52
anterior tamponade.....	115	assessment of strength of individual muscles.....	51
antiphospholipid antibody syndrome.....	35	assessment of vibration.....	52
antiretroviral nucleoside analogues.....	55	assessment of vision.....	101
antiretroviral proteinase inhibitors.....	55	assessment of vision, infant/child.....	101
antisocial behavior.....	82	assessment of visual fields by confrontation.....	51
antisocial personality disorders.....	94	assessment of work capacity.....	34
aortic dissection.....	45, 63	assist and check mother and newborn.....	92
aortic regurgitation.....	45	assisted vaginal delivery.....	91
aortic stenosis.....	45, 75	assisted ventilation.....	50
aortic stenosis or coarctation of aorta.....	75	asthma.....	44, 82, 126
aphakia.....	98	astigmatism.....	98
aphthous lesions.....	112	asymmetries and anomalies of breast.....	61
aplastic anaemia.....	77	atelectasis.....	44
aplastic/ hypoplastic anaemia.....	40	atheroma.....	108
apnoea.....	42, 79	atherosclerosis (disseminated).....	45
appendix.....		atopic / constitutional eczema.....	103
mass lesion.....	120	atopic dermatitis.....	82
application of a sling.....	72	atresia of bile ducts.....	62
application of bandage.....	70	atrial fibrillation.....	46
apply eye dressing.....	101	atrial flutter.....	45
aromatic amine.....	132	atrial septal defect.....	45, 75
arterial and venous ulcers.....	67	atropine.....	54
arterial puncture.....	48	attack rate, cumulative incidence rate.....	128
arteries.....		attendance in theatre at various operations.....	72
dilatation and wall changes.....	120	attending woman in labour.....	91
stenosis, acute and chronic occlusi.....	120	attention deficit and hyperactivity disorder.....	93
arteries and veins.....	122	attention deficit hyperactivity disorder.....	82
arteriovenous malformations and other angioma.....	61	attenuation law.....	121
arthritis of hip.....	66	atypical neuroleptic drugs.....	57
arthritis, septic / reactive.....	78	auscultation (bowel sounds, bruits).....	46
artificial insemination.....	92	auscultation of heart.....	46
artificial rupture of membranes.....	91	auscultation of lungs.....	47
asbestos.....	126, 132	autism.....	81, 93
aseptic necrosis of bone.....	36, 64	avoidant and dependent personality disorders.....	94
asphyxia.....	79, 137	axes of legs on standing (genu valgum, genu v.....	71
aspiration.....	48, 64, 70, 75, 79, 82, 91, 115, 116, 136	azathioprin.....	57
aspiration of mouth/throat of newborn infant.....	91		
aspiration pneumonia.....	64	<b>B</b>	
aspirin.....	53	bacterial tracheitis.....	79
aspirin-associated rhinosinusitis.....	110	bacterial vaginitis.....	106
assessment of ability to judge (Urteilsfähigk.....	138	bag-valve-mask ventilation.....	83
assessment of agnosia.....	51	barium passage of oesophagus.....	116
assessment of aphasia.....	52	barotrauma.....	113
assessment of apraxia.....	52	basalioma.....	105, 113, 114
assessment of aptitude to drive (Fahreignung).....	138	basic cardiac life support (with simulator).....	50
assessment of capillary pulse.....	47	basic knowledge of instruments.....	74
assessment of capillary refill.....	47	basic physics of image formation, Doppler eff.....	122
assessment of concentration.....	51	basic physics of the X-ray process.....	121
assessment of cranial nerves V, VII to XII.....	51	battered child syndrome.....	136
assessment of diplopia.....	51	benefits of breast-feeding.....	130
assessment of disability.....	127	benign and malignant brain tumors.....	61
assessment of extra-ocular movements.....	51	benign and malignant thyroid tumors.....	69
assessment of foetal heart rate.....	92	benign and malignant tumors.....	63
assessment of fontanelles.....	50	benign cysts and tumors.....	61
assessment of gram stain.....	48	benign disorders.....	86
assessment of light touch.....	52	benign prostatic hyperplasia.....	63
assessment of lochia.....	92	benign tumours.....	109, 114
assessment of lumbar flexion.....	50	benign tumours (incl. simple goitre).....	109
assessment of memory.....	51	benign tumours of salivary glands.....	114
assessment of muscle strength.....	51	benzene.....	132
assessment of nystagmus.....	51	benzodiazepines.....	58
assessment of orientation.....	52	beta-blockers.....	55
assessment of passive stretch.....	51		

bile fistula (internal, external).....	62
biliary atresia or hypoplasia.....	76
bimanual palpation of submandibular glands.....	116
biographic history.....	94
biopsy.....	32, 49, 71, 92, 107
biopsy of muscle.....	49
biperiden (akineton).....	55
biphosphonates.....	57
bipolar disorders.....	93
birth and death statistics in Switzerland.....	126
bisacodyl.....	57
bite wounds.....	136
bladder catheter.....	50
bleeding from marginal vein.....	88
blepharitis.....	97
blood group incompatibility.....	87, 88
blood pressure.....	27, 47, 83, 84
blunt trauma to the skin, long bones and head..	137
bone	
osteolysis (incl. scintigraphy).....	121
periosteal reaction.....	119
bone marrow aspiration.....	82
bone metastases.....	36, 64
bones and joints.....	121
borderline personality disorder.....	94
borreliosis.....	41, 109
brain.....	41, 42, 43, 61, 68, 78, 110, 120, 122
enlargement of ventricles (local, gene.....	120
brain abscess.....	41, 78, 110
brain death.....	42
brain stem lesions not otherwise classified.....	43
breast	
malignant tumours.....	120
breast examination.....	71, 91
breast examination (inspection, palpation).....	71
breast-feeding, techniques and frequent probl....	83
breasts	
inspection, lactation.....	92
breath-holding spells.....	75
brief psychotic disorders.....	94
broken and fractured tooth.....	68
bromocriptin.....	55
bronchial asthma.....	44
bronchiectasis.....	44
bronchiolitis.....	79
bronchopulmonary dysplasia.....	82
bronchoscopy.....	49
Brown-Séquard syndrome.....	43
Budd-Chiari disease.....	37
bulbar palsy.....	43
bullous pemphigoid.....	103
bundle branch block.....	45
buphthalmos.....	97
burns.....	68, 70, 72, 96, 105
acid.....	96
alkali.....	96
heat.....	96
bursitis of olecranon.....	65
butyrophenones.....	57
<b>C</b>	
Ca-antagonists.....	55
caesarean section.....	91, 92
café au lait spots.....	103
calcium salts.....	57
calculation of effective and organ dose.....	121
caloric tests.....	117
candidiasis.....	38, 68, 82, 89, 104, 109
candidiasis, mouth/throat.....	38
cannabis-related disorders.....	94
capillary refill.....	47, 73
carbamazepin.....	54
carbon monoxide.....	35, 41, 126, 132
carbon monoxide poisoning.....	35, 41
carbuncle.....	67, 104
carcinoid syndrome.....	63
carcinoid tumours.....	39
carcinoma of bile ducts.....	37
carcinoma of bladder.....	43
carcinoma of cervix.....	86
carcinoma of gallbladder/bile ducts.....	62
carcinoma of oesophagus.....	38
carcinoma of ovary.....	86
carcinoma of pancreas.....	37
carcinoma of stomach.....	38
carcinoma of the prostate.....	63
carcinoma of vulva.....	89
cardiac aneurysm.....	46
cardiac catheterisation.....	49
cardiac contusion.....	63
cardiac tamponade.....	63
cardiogenic shock.....	46
cardiomyopathy.....	45, 75
cardio-respiratory arrest.....	46
cardiovascular system (heart rate, blood pres.....	84
carpal tunnel syndrome.....	36, 41, 49
Carpaltunnel-Syndrome.....	65
cat scratch disease.....	40
cataract.....	80, 97, 101
cataract, surgery.....	101
causality criteria.....	128
caval vein syndromes.....	70
ceftriaxon.....	58
cellulitis, periorbital cellulitis.....	78
central facial nerve palsy.....	109
central facial palsy/paralysis.....	43
central hearing loss.....	117
central vestibular dysfunction.....	109, 117
cerebellar syndrome.....	42
cerebral infarction.....	42
cerebral palsy.....	41, 80
cervical incompetence.....	88
cervical lymph node metastases.....	109
cervical lymph node tuberculosis.....	109
cervical lymphadenectomy.....	116
cervical lymphadenitis.....	109
cervical radicular test.....	52
chalazion.....	97, 101
changes of shape of external nose.....	112
cheilitis.....	111
cheilitis angularis (= Perlèche).....	111
chemical accident.....	73
chemical induction of labour.....	91
chinolone antibiotics.....	58
chlamydial infection.....	106
chloral hydrate.....	58
chlorhexidin.....	56
chloroquine / mefloquine.....	55
choanal atresia.....	80, 112
chole(dochol)lithiasis.....	62
cholecystitis including biliary colic.....	37
cholelithiasis.....	37
cholera.....	41
cholesteatoma.....	111
chondrodermatitis nodularis.....	110
chondromalacia patellae.....	36
chorea minor (Sydenham's chorea).....	108
choriocarcinoma.....	86
chorionic biopsy.....	92
chorioretinitis.....	96
chromosomal abnormalities (21, 13, 18).....	84

chronic bronchitis.....	44
chronic complications of diabetes mellitus .....	38
chronic glomerulonephritis.....	44
chronic granulomatous disease.....	77
chronic hepatitis.....	37
chronic hyperreactive (vasomotoric) rhinosinu ..	110
chronic laryngitis.....	110
chronic lymphocytic leukaemia.....	40
chronic myeloid leukaemia.....	40
chronic otitis with effusion (glue ear).....	111
chronic pancreatitis incl. pseudocysts.....	66
chronic pharyngitis.....	111
chronic renal failure.....	44, 76
chronic rhinosinusitis.....	110
ciliary dysfunction.....	82
circumscribed scleroderma/morphea.....	103
cirrhosis.....	37, 64
cirrhosis of the liver.....	64
cisplatinum / cyclophosphamide.....	55
clamp cord/separation of placenta.....	91
claudication.....	29, 45
claw foot.....	67
cleft lip, jaw, palate.....	68
cleft palate and lip.....	79
clinical testing of facial nerve function.....	117
clomethiazol.....	56
clopidogrel.....	53
club foot.....	36, 66, 79
cluster headache.....	42
coarctation of the aorta.....	45
cochlea implantation.....	118
codeine.....	53, 55
coeliac disease.....	39, 76
cognitive-behavioral psychotherapy.....	95
cold injuries in disaster situations.....	73
colonic carcinoma.....	62
colonic polyps.....	38
colostomy, changing the bag.....	72
colour vision test with Ishihara tables.....	101
coma.....	29, 41, 51, 75
combined effect of multiple air pollutants.....	126
common accidents.....	84
common birth injuries.....	79
common low back pain.....	36
community acquired pneumonia.....	78
compartment syndrome.....	67
complete atrio-ventricular heart block.....	45
complete spinal transection.....	43
complications 19, 23, 33, 38, 41, 69, 73, 74, 108, 110, 111	
graft rejection, infection.....	74
composition of a healthy diet.....	130
conductive hearing loss.....	117
condylomata.....	67, 86, 89
condylomata acuminata.....	86, 89
congenital complete heart block.....	75
congenital dislocation of the hip.....	79
congenital malformations.....	63, 86, 89
congenital torticollis.....	79
coniotomy.....	114
conjunctiva, foreign body.....	96
conjunctivae, inspection, including fornix.....	99
conjunctivitis.....	78, 80, 96
constipation.....	27, 77
contact lenses (examination).....	101
contrast, viewing window.....	119
conventional examinations using contrast agen.....	122
conventional radiography, US, CT, MRI.....	123
convergent strabismus (esotropia).....	99
coordination provisions of accident insurance... ..	125
coping with dysfunctional families.....	34
cord presentation / cord prolapse.....	87
cornea, determination of sensation.....	100
cornea, foreign body.....	96
cornea, inspection.....	100
cornea, inspection with fluorescein.....	100
cornea, removal of foreign body and debris.....	101
corneal dystrophy.....	96
corneal oedema.....	96
corneal reflex.....	51, 100
corneal transplantation.....	101
corrosive lesion (acid, base, stenosis).....	66
corticosteroids (cortisone, prednisone).....	56
cost sharing and copayments.....	135
coumarine-type oral anticoagulants.....	54
counseling individuals who want to give up sm.....	124
covered benefits.....	127
CPAP-ventilation.....	116
cracked nipple.....	88
cranial arteritis.....	42
craniosynostosis.....	81
criteria for malpractice.....	131
criteria for the use of screening examination.....	131
Crohn` s disease.....	62
crush syndrome.....	67
cryptorchidism.....	65, 76
CTG	
performance and interpretation.....	91
CT-guided intervention (CT-fluoroscopy).....	122
CT-scan of cerebrum.....	49
CT-scan of spinal cord.....	49
curettage.....	90
curtailing of benefits.....	125
cutaneous leishmaniasis.....	105
cutaneous manifestations of AIDS.....	106
cycloplegia.....	98, 99
cyclosporine.....	57
cyst of Bartholin, abscess of Bartholin`s gla.....	89
cyst of Gartner.....	89
cystic fibrosis.....	37, 82
cystinuria.....	76
cystitis.....	44, 63
cystocoele.....	89
cysto-urethrocoele.....	89
cysts.....	61, 65, 69, 109, 113
cytomegalovirus.....	41, 81
<b>D</b>	
dacryoadenitis.....	97
dacryocystitis.....	97
dacryostenosis.....	97
damage due to endotracheal tube.....	113
dead fetus.....	88
death by choking (Bolustod).....	136
death signs (livores, rigor, decomposition).....	136
decubital ulcer.....	26, 68, 106
deep vein thrombosis.....	45, 70
deep venous thrombosis.....	89
definiton of vertigo and disequilibrium.....	117
degeneration of macula, age dependent.....	98
dehydration.....	79
delayed puberty.....	28, 77
delirium.....	93
delivery of placenta.....	91
delusional disorder (paranoia).....	94
dementia.....	42, 43, 93
dendritic keratitis (herpes).....	96
density of tissues (Hounsfield units).....	122
dental care.....	84
dental trauma.....	75
depression.....	24, 82, 89



depressive disorders	93
dermatitis artefacta	106
dermatitis herpetiformis (Dühring's disease)	103
dermatomyositis	35, 103
dermatophytic disease	104
dermographism	107
desferoxamin	54
detached retina, surgery	101
detection of arterial bruits	47
detection of neck stiffness	48
detector	122
developmental screening tests (e.g. Denver)	83
deviation of nasal septum	112
dextromethorphan	55
diabetes	25, 37, 38, 76, 81, 88, 99, 106
diabetes insipidus	38, 76
diabetes mellitus type 1	37
diabetes mellitus type 2	38
diabetic foot ulcer	67
diagnosis of cardiac death	137
diagnosis of cerebral death	137
diagnosis of clinical death	137
diagnostic proceeding with acute abdomen	71
diaper dermatitis	103
diaper rash	28, 82
diaphragmatic hernia	80
diascope / pleximeter	107
diastasis of rectus abdominis muscle	60
Di-George syndrome	78
digital radiographic X-ray detection	122
digoxin	55
diphtheria	79, 111
diphtheria incl. diphteric croup	111
diplopia	26, 51, 99
direct fiberoptic laryngoscopy	115
dislocation of patella	66
disorders of autonomic nervous system	41
disorders of mother-child relationship	82
disorders of phonation	112
disorders of sexual preference	94
disseminated intravascular coagulation	40
dissociative (conversion) disorder	93
disturbances of consciousness, Glasgow-Coma S	68
disturbances with wisdom teeth	68
divergent strabismus (exotropia)	99
diverticulitis	39, 60, 62
diverticulosis, diverticulitis	39
diverticulosis/diverticulitis	62
diverticulum	66, 77, 89, 108
diverticulum of urethra	89
division of the pubic symphysis	88
Doppler examination	49
Doppler occlusion pressure	70
dose-dependent ADRs	56
Douglas` abscess	60
downward deviation strabismus (hypotropia)	99
doxycycline	58
drawing a family tree (pedigree)	82
drowning	136
drug dosing in liver disease	58
drug dosing in renal insufficiency	58
drug prescription and regulatory authorities	58
drug rash	103
drug therapy in newborns and children	57
drug therapy in the elderly	57
drugs in clinical trials	58
duodenal atresia	69
duodenum	
dilatation	120
duplex-scan of vessels	49

dysfunction of menstrual cycle in adolescence	77
dysgeusia	117
dyshidrotic eczema	103
dyslexia	82
dysmaturity	88
dyspnoea in patients with tracheal canule	114
dysthymia	93
dystocia, foetal and passage	87
dystrophy of vulva	89

## E

ear irrigation	114
ear microscopy	114
eating disorders	82, 93
echinococcus cyst	37, 64
echocardiography	49
echography	48
economic importance of infectious diseases	128
ectopic pregnancy	86
ectropion	97, 101
eczema herpeticum	107
EEG	49
elder abuse and neglect	39
electrical injury	136
electrocardiography	48
electroconvulsion therapy	95
electromagnetic fields	133
electro-oculography	101
electroretinography	101
elevated intracranial pressure (acute, chroni	61
eliciting a fluid thrill	46
eliciting renal tenderness	46
eliciting shifting dullness	46
elimination disorders	93
embolism (arterial)	45
EMG	49
empyema	44, 62
encephalitis	41, 134
encopresis	27, 81
endocarditis	45
endocrine pancreatic tumors	62
endometrial carcinoma	86
endometriosis	90
endometritis	87, 88
endophthalmitis	96
endoscopy	48, 71, 114, 115, 116, 132
endoscopy of nasal cavity	115
endoscopy of pharynx	114
endoscopy of the oesophagus	116
enema	72, 83
enema (age adapted)	83
enhancement of normal and diseased tissues	122
ENT organs	122
enterocoele	89
enteropathic arthritis	35
entropion	97, 101
environmental noise	133
epicanthus	97
epidemiological disaster due to infections	73
epidermolysis bullosa	105
epididymitis, orchitis	65
epidural anaesthesia	91
epigastric hernia	60
epiglottitis	75, 110
epiphyseal instability, epiphysiolysis	64
episiotomy	91, 92
epispadia	65
erectile dysfunction	65
erysipelas	41, 104, 110
erysipelas of auricle	110

erythema (chronicum) migrans	104
erythema infectiosum	79
erythema multiforme	35, 103
erythema nodosum	36, 103
erythema toxicum	80
erythrasma	104
erythropoietin	53
esophagus, mediastinal structures	122
establishment of cause of death	136
estimation of time of death (postmortem chang	136
estimation of wound age	138
ethasuximide, lamotrigin, phenobarbital, valp	54
Eustachien tube dysfunction	113
euthanasia	39
evaluation and promotion of quality of care	129
evaluation of the cause and manner of death	138
Ewing sarcoma	81
examination and evaluation of wounds and stai	138
examination of cervical mucus fern test	90
examination of motor system	47
examination of placenta	91
examination of sensory system	47
examination umbilical cord	92
exanthema subitum (roseola)	78
excision of submandibular gland	117
exercise ECG testing	48, 124
exostosis, hyperostosis	108
expander and electrolytes	57
expert opinion (Gutachten)	138
extent and duration of benefits	127
external examination of dead body (Leichensc	137
external inspection and palpation of larynx	115
extradural haemorrhage	42, 49
extrapyramidal side effects	94
extremities	28, 47, 61, 65, 66, 67, 71, 122
eye disorders due to diabetes mellitus	99
eye drops instillation	101
eye movements, examination	100
eye, cryocoagulation	
e.g. cyclocryocoagulati	101
eye, fluorescein angiography (FAG)	101
eye, laser therapy	101
eye, removal of contact lens or eye prosthesi	101
eye, visual evoked potentials (VEP/VER)	101
eyeball, contusion	96
eyeball, intraocular foreign body	96
eyeball, perforation	96
eyelash, inspection	99
eyelid laceration	97
eyelid retraction	97
eyelid tumour, e.g. basal cell carcinoma	97
eyelids, inspection	99
eyelids, inspection by eversion of upper lid	99

## F

face injury	68
facial clefts, nasal clefts, nasal fistulas	112
facial palsies	68
failure to rotate / incorrect rotation	87
failure to thrive	28, 77
family history	94
family planning and sexual counselling	34
Fanconi syndrome	76
fasciitis	63
febrile seizures	75
feet on standing (pes planus, pes valgus, etc	71
femoral hernia	60
fever	25, 28, 35, 39, 75, 78, 108, 111, 134
fiberoptic oesophagoscopy	116
fiberoptic tracheobronchoscopy	115

fibroids	86
fibromyalgia	36
fibrous dysplasia	36
filing of death certificate	73, 137
fine dust & airborne dust	126
fine needle aspiration cytology	115, 116
finger prick	48
finger-to-nose test	51
first aid	70, 74
fissure-in-ano	39
fistulas	65, 67, 109, 112
flammeous naevus	104
flood ocular tissue	101
fludrocortisone	56
fluid and food requirements as a function of	83
flumazenil	54
fluoroscopy	122, 123
focal epilepsy	42
foetal blood sampling	91
folic acid	53
follicular tonsillitis	111
folliculitis	104
food allergy	78
foreign body	27, 69, 70, 75, 87, 96, 101, 108, 113
foreign body aspiration	75
foreign body in external auditory canal	108
foreign body in larynx and trachea	113
foreign body of hypopharynx	108
foreign body of oesophagus	108
fracture of clavicle	65
fracture of humerus	65
fracture of jaw	68
fracture of orbit	68, 98
fracture of the nasal pyramid	112
fracture of zygomatic arch	113
fractures and contusions of ribs	61
fractures and dislocations of the spine	69
fractures of femur	66
fractures of fibula	67
fractures of hip	66
fractures of pelvis	66
fractures of radius and ulna	66
fractures of shoulder	65
fractures of tibia	67
fractures of toes	67
frontobasal fracture	113
Frozen shoulder	65
function of occupational health services	133
funding bodies and their approximate share	127
fundoscopy	51, 100
fundoscopy, bringing the fundus into focus	100
fundus contact lens examination, e.g. goniosc	99
funnel chest, chicken breast	61
furuncle	67, 104, 110
furuncle/carbuncle	104
furunculosis of the external auditory canal	110

## G

gait (limp, pareses, etc.)	71
gallbladder empyema	62
gallstone ileus	62
ganglion	64
gangrene	63
gas gangrene	63
gastric bleeding	39
gastric dilatation	69
gastric endoscopy	48
gastric tumors	69
gastritis	38
gastroenteritis, colitis, enterocolitis	78

gastrointestinal haemorrhage	69
gastrointestinal tract	121
gastroesophageal reflux	76
gastroschisis	80
gender identity disorders	94
general appearance	47
general physical examination	71, 91
general state (basic mood, development, postu	71
generalized anxiety disorder	93
generalized seizures	42
genetic counseling	83
genital discharge	
examination with saline	90
Gram stain	90
vaginal swab	90
genu valgum (knock knee)	36
genu varum, genu valgum	66
gestational diabetes mellitus	88
giardiasis	40
gingivitis	68, 111
gingivitis, periodontitis	68
gingivo-stomatitis	78
giving health advice to groups and communitie	124
giving health advice to individuals	124
glaucoma surgery, trabeculotomy	101
glaucoma, congenital	97
glioma	41
glomerulonephritis	44, 76
glomulonephritis	108
glossitis	68
glucagon	57
glucose	57
glycogen storage disease	79
goitre	26, 69, 109
gonadal XY-dysgenesis	87
gonorrhoea	106
gout	35
granuloma annulare	105
granuloma inguinale	106
granulomas and fistulas	112
grasp reflex	51
Guillain-Barré syndrome	43
gun shots	137
gynaecomastia	27, 61, 77

## H

H2-receptor inhibitors	53
habitus and posture	47
haemangioma	60, 82, 104
haematoma	42, 61, 65, 68
haematothorax	62
haemoglobinopathies	77
haemoglobinopathy	40
haemolytic anaemia	39
haemolytic uraemic syndrome	76
haemophilia A+B	40
haemorrhagic disease of the newborn	80
haemorrhoids	39, 67, 106
hairy leucoplakia	107
hairy leukoplakia of the border of the tongue	109
Hallux valgus	67
hammer toe	67
head, cervical spine (mobility, pain)	71
health care costs and main financing forms	131
Health Insurance Law (KVG)	
aspects of preven	130
hearing aid fitting	117
hearing loss	
congenital and acquired	117
heart	27, 45, 46, 63, 75, 84, 92, 120, 122, 132

heart failure, left and right ventricular fai	46
heel-to-shin test	52
Heerfordt syndrome	112
height and weight	47
Heimlich manoeuvre	70
hemianopia, bitemporal and homonymous	99
Henoch-Schönlein purpura	35, 78
heparin / low-molecular-weight heparin	54
hepatobiliary system, pancreas and spleen	122
hernia of diaphragm	62
hernia of linea alba	60
hernia of nucleus pulposus	36
heroin overdose	35
herpes genitalis	106
herpes labialis	111
herpes simplex	41, 81, 107
herpes zoster	41, 78, 107
herpes zoster and varicella	107
herpetic stomatitis	38, 109
hiatal hernia	62
hiatus hernia	38, 77
Hirschsprung`s disease	62
hirsutism	26, 90, 104
histiocytoma	104
HIV - neurological complications	41
Holter examination	49
hordeolum	97
house call to patient	34
humidifier disease	126
hyaline membrane disease	79
hydatidiform mole	88
hydradenitis suppurativa	103
hydrocephalus	41, 61, 80
hydrocephalus and malformations	61
hydronephrosis	76
hydrops of gallbladder	62
hypercalcaemia	79
hyperemesis gravidarum	88
hyperglycaemia	25, 79
hyperlipoproteinemia and dyslipoproteinemia	37
hypermetropia	98
hyperparathyroidism	38, 69
hypertension	27, 28, 37, 45, 64, 75, 81, 88, 120
hyperthyroidism	38, 69, 76, 99
hypertrophic stomatitis	112
hypertrophy, stenosis of pylorus	69
hyperventilation syndrome	44
hyphaema	96
hypocalcaemia	79, 80
hypogammaglobulinaemia	77
hypoglycaemia	25, 38, 79, 80
hypogonadism	37
hypoparathyroidism	38, 69
hypopituitarism	38
hypopyon	96
hypospadias	65
hypospadias	79
hypothyroidism	38, 76
hypovolaemic shock	46
hysterosalpingography	90

## I

ICD-10	94
ichthyosis	104
identification in mass disasters	137
identification of dead body	138
identifying psychological and social problems	95
idiopathic facial nerve palsy (Bell's palsy)	109
idiopathic thrombocytopenic purpura	77
if necessary, discussing contraception	92

ileus (proximal, distal) .....	60
immune system, passive transfer of immunity.....	84
impact of birth weight on future disability .....	127
impacted earwax.....	108
imperforate hymen.....	76
impetigo.....	78, 104
incarcerated hernias .....	60
incidence of common congenital deformities.....	127
incidental involvement.....	34
incision and drainage of abscess .....	72
incisional hernia .....	60, 70
incontinence in urogynaecology .....	86
incontinence of faeces .....	89
incontinence of urine .....	88
indications for and complications of tonsille.....	111
indications for surgery and radiotherapy .....	114
indirect pharyngo-laryngoscopy.....	115
individual counseling by personal physician .....	131
individuals at risk of exposure.....	126
induced nystagmus (rotation, optokinetic).....	117
infant retained placenta.....	87
infantile spasms .....	81
infectious / inflammatory facial nerve palsy .....	109
infectious colitis .....	39
infectious disorders in urogynaecology.....	86
infectious mononucleosis.....	40, 111
infertility.....	65, 87
infiltration anaesthesia .....	72
inflammation .....	25, 63, 66, 67, 86, 89, 98
inflammation of Achilles tendon .....	66
inflammation of orbit, orbital cellulitis .....	98
inflammation of tendon sheath.....	67
influenza.....	41, 132, 134
information of patient.....	72
ingrown toenail.....	66
inguinal hernia .....	60, 77
inhaled beta-2 agonists.....	53
inhaled corticosteroids.....	53
injection of varices sclerosant.....	72
injuries and perforations of oesophagus.....	108
injuries by lightning .....	136
injuries by sharp objects .....	137
injuries from fractured ribs, flail chest .....	61
injuries to teeth.....	113
injury of plexus and peripheral nerves.....	42
injury to bile ducts .....	62
innocent heart murmur.....	75
insect allergy.....	77
insect sting.....	26, 105
insertion I.U.D.....	90
insertion of pessary .....	90
insertion of urinary catheter.....	90
inspection.....	46, 47, 48, 49, 50, 51, 71, 91, 92, 99, 100, 107, 114, 115, 116, 138
inspection and palpation of cervical structur .....	115
inspection and palpation of external genitali .....	91
inspection and palpation of nose and face.....	115
inspection and palpation of scrotum.....	49
inspection and palpation of skin.....	48
inspection and support of perineum.....	91
inspection at rest.....	47, 50, 51
inspection caesarean section scar .....	92
inspection during respiration .....	47
inspection episiotomy scar .....	92
inspection in motion.....	50
inspection lacrimal apparatus, .....	99
inspection of abdomen of pregnant woman .....	92
inspection of breasts .....	46
inspection of eyes, nose, mouth and throat .....	48
inspection of glove after rectal examination.....	50
inspection of joints .....	47
inspection of lips, oral cavity and oral phar .....	114
inspection of mucous membranes.....	47
inspection of nails, scalp and visible mucosa ....	107
inspection of penis.....	49
inspection of perianal area .....	50
inspection of pupils (size and shape).....	51
inspection of skin, nails, muscle tone .....	47
inspection of the ear and adjacent region .....	114
inspection of vulva, perineum.....	47
inspection of width of palpebral fissure.....	51
instability of ankle.....	66
instructions for self-examination of breasts .....	90
insulin.....	56
intellectual development after language develo ...	84
intensive care .....	74
intention (Vorsatz).....	137
interferon .....	57
intermittent arthritis of the hip .....	36
internal examination in early pregnancy .....	92
internuclear ophthalmoplegia and gaze nystagm	43
interstitial lung disease.....	44
interstitial nephritis .....	43
interventional neuroradiology.....	49
intervertebral disc hernia.....	69
intestinal atresia .....	63, 80
intoxication by cyanide .....	137
intoxication by gases CO, CO2, CN, H2S .....	137
intoxication by illegal drugs.....	137
intoxication by opiates, opioids .....	137
intoxication by psychotropic drugs .....	137
intraarticular injection .....	50
intracerebral haematoma .....	42, 61
intracranial tumours .....	81
intracutaneous test .....	107
intramuscular injection.....	50
intra-ocular pressure, estimation by palpatio ....	100
intraosseous infusion.....	83
intra-uterine infection.....	88
intravenous cannulation .....	50
intubation.....	5
intussusception of bowel.....	75
invagination.....	60
investigation of battered children .....	138
involuntary admission.....	95, 139
involuntary treatment and restraint.....	95
iritocyclitis, iritis .....	97
iris, inspection.....	100
iron deficiency anaemia .....	77, 88
iron deficiency anaemia in pregnancy.....	88
iron sulfate .....	53
iron-deficiency anaemia .....	40
irritable bowel syndrome, chronic abdominal p ...	39
ischaemic colitis .....	39
isoniazide .....	58
isosorbid-dinitrate.....	55
items covered and conditions for coverage.....	131
<b>J</b>	
jaundice late in pregnancy.....	88
joint fluid aspiration .....	48
joints erosions .....	119
loss of joint space .....	120
jugular venous pressure.....	47
juvenile chronic arthritis.....	35, 78
<b>K</b>	
Kawasaki syndrome .....	78

keloid	68, 104
keratitis	96
keratitis with corneal ulcer	96
kerato-conjunctivitis sicca	96
keratoconus	96
ketokonazole	54
key features of private insurance	134
key insurance areas	134
kidney or liver biopsy	49
Klinefelter syndrome	77
knowledge of basic first aid	74
Koplik spots	112
K-sparing diuretics (spironolactone, amilorid	55

## L

labial, maxillary and palatine clefts	111
Labor Act (ArG) and associated ordinances	133
labyrinthitis	108
lacrimal duct, laceration	97
lacrimal ducts, rinse through (Anel)	99
lactulose / lactitol	57
lagophthalmos	97
laminectomy	50
language development	84
laparoscopy, diagnostic	90
laparoscopy, therapeutic	90
laryngeal chondritis	110
laryngectomy	116
laryngitis in tuberculosis, syphilis and AID	110
laryngocoele	112
latent strabismus (heterophoria)	99
lateral and midline cervical cysts and fistul	109
lateral epicondylitis (tennis elbow)	36
lateral epicondylitis (Tennis elbow)	65
lateral sinus thrombosis	110
Le Fort fracture I,II,III	68
lead	10, 41, 126, 132
lead poisoning	41
legal basis of licensing of health profession	130
legal capacity	95
legal external inspection (Legalinspektion)	138
legal foundations of liability	131
legal foundations of the Health Care systems	135
legal regulations on imaging data	119
Legg Perthes disease	36
Legg-Perthes disease	81
lens dislocation	97
lens, inspection	100
lentigo maligna	105
lentigo simplex	103
lepra	104
lesion of articular cartilage	64
lesion of joint capsule	64
lesion of testicle and scrotal content (traum	64
lesions of medial and lateral meniscus	66
lesions of shoulder ligament	65
leukoplakia	68, 104, 109
leukoplakia/leukokeratosis	104
levodopa-benserazide	55
levothyroxin	56
lichen planus	104, 105
lichen ruber planus	112
lidocaine	55
life style	
health and disease	131
lipoma	104
lithium intoxication	94
lithium salt	54
liver failure	37
liver injury	64

local anaesthesia of perineum	91
loop-diuretics (furosemide)	56
loperamide	54
loss of finger nail	65
loss of vision and blindness	99
low-dose aspirin and other platelet inhibitor	53
lower airways - lung	122
lumbar puncture	49, 72, 83
lung	
alveolar consolidation	119
interstitial diseases	121
lung abscess	44
lung and heart activity, variants of norm	84
lung carcinoma	44
lung contusion	64
lung emphysema	44
lung fibrosis	44
lung function tests / spirometry	49
lung infarction	44
lung tumors	64
lupus erythematosus	35, 78, 103
luxation of jaw	68
luxation of ossicular chain	113
luxations of shoulder	65
Lyme disease	41, 109
lymph nodes, pre-auricular, palpation	99
lymphadenitis	60, 64, 78, 109
lymphangioma	64
lymphangitis	40, 64, 106
lymphogranuloma venereum	106
lymphomas	77

## M

macrocytic anaemia	40
macrolides	58
macrosomia	80
magnesium salts	57
magnesium sulfate	54
magnesium-hydroxide, aluminium-hydroxide	53
magnetic and electrical fields	133
magnetism, radiofrequency	119
malabsorption	38
malformations of oesophagus	108
malignancy of colon	39
malignancy of gall bladder	37
malignant disorders	86
malignant lymphoma of the skin	105
malignant melanoma	105
malignant neuroleptic syndrome	94
malignant salivary gland tumours	114
malignant tumors	61, 63, 66
malignant tumours, TNM staging system	114
mallet finger	65
Mallory-Weiss syndrome	38, 69
malnutrition in the elderly as a health risk	130
malpresentation of fetus	87
malrotation	60, 63, 80
maltreatment (Misshandlung)	137
mammography	70, 121
management of polymorbid patient	34
manual removal of placenta	91
MAO-inhibitors	54
marantic parotitis	111
marching fracture	67
Marfan syndrome	77
mass intoxications	73
masseter reflex	51
mastitis	61, 88
mastoidectomy	116
mastopathy	61

matrix, geometric resolution	119
maturation of liver functions	84
maturation of skeleton	84
maturation of teeth	84
measles	78, 134
measure /estimate loss of blood, after delive	92
measurement of blood pressure (age adapted)	83
measurement of exophthalmos (Hertel)	99
measurement of lacrimal production	99
measurement of stapedius reflex	115
mechanical ileus	39
Meckels Diverticulum	63
meconium aspiration	79
meconium ileus	80
media of eye, inspection by transillumination	100
mediastinal and hilar lesions	119
mediastinitis	44
medical duties in emergencies	139
medical risks in disasters	73
megacolon, toxic	39
megaloblastic anaemia in pregnancy	88
megaureter	76
meningioma	41
meningitis	32, 40, 41, 75, 80, 111
meningococcaemia	78
mental retardation	28, 42, 85, 93
mental retardation and learning disorders	93
mental status	47
mercury	132
mesenteric infarction	60
mesenteric lymphadenitis	60
mesothelioma	45
metabolism of ethanol	138
metastases in brain	41
metastases in liver	37
metastases in lung	44
methadone	53
metoclopramide	54
metoclozine-pyridoxin-coffein	54
metronidazole	55
micro- and macrognathia	68
microlaryngoscopy	115, 117
microphthalmos	97
microtia	112
micturating cystography	70
midfacial fractures	113
midline and lateral branchial cysts and fistu	65
migraine	42, 80
migraine, headache	80
mild injury (einfache Körperverletzung)	137
milia	80
milk protein intolerance	76
Mini Mental Status	94
minimal medical standards for drivers	138
mitral regurgitation	46
mitral stenosis	46
molluscum contagiosum	107
mongolian spot	80
monoarticular arthritis	36
mononucleosis infections	78
Morton neuralgia	36
most frequent drug poisonings	56
motion sickness (kinetosis)	109
MRI of central nervous system	49
mucocoeles	114
mucopolysaccharidoses	79
multi-infarct dementia	42
multiple endocrin neoplasia syndrome	69
multiple endocrine neoplasia (MEN-syndromes)	37
multiple pregnancy	88
multiple sclerosis	43

mumps	78, 111, 134
mumps (epidemic parotitis)	111
mutism	82
myasthenia gravis	43
myelography	49
myeloma	39
myelomeningocoele	79
myelopathy due to stenosis of spinal canal	43
myocardial infarction	46
myocarditis	45
myopathy	81
myopia	98

## N

Nabothian cyst	86
N-acetylcysteine	54
NaCl	57
naevus cell naevus	104
nail bed cauterisation	72
nail dyschromias	104
nail removal	72
naloxone	54
narcolepsy	42
nasal polyposis	110
nasogastric tube	50, 71
natural death	136
neck dissection	116
necrosis of femoral head	67
necrotising enterocolitis	62
necrotizing enterocolitis	80
negligence (Fahrlässigkeit)	137
neonatal meningitis	80
neonatal pneumonia	79
neonatal risk of infection	81
neonatal seizures	80
neonatal sepsis	80
neoplasms of choroid (melanoma, metastases)	96
neoplastic facial nerve palsy	109
nephroblastoma	77
nephrotic syndrome	44, 76
nerve block	72
neuroblastoma	77, 114
neurofibromatosis	41, 81, 105
neurofibromatosis (Recklinghausen's disease)	105
neurofibromatosis (Von Recklinghausen's disea	41
neurogenic bladder	43
neurologic syndromes causing vocal cord paral	112
neurological physical examination	71
neuropathy of brachial plexus	43
neurosurgically relevant infection	61
neurosurgically relevant stroke/cerebral isch	61
neurovascular surgery	49
nicotine	56, 81
nicotine-related disorders	93
night-blindness	26, 99
nitroglycerin	56
noise	133
non-invasive and invasive monitoring	73
non-natural or undetermined death	136
non-rhythmic dyskinesias	42
non-sedative H1-antagonists	53
nonspecific urethritis	106
norm variants of the tongue	111
normal late-life changes, including retiremen	52
NSAID incl. Cox2 specific	53
nuclear accident	73, 133
nuclear accidents	133
nummular-bacterial eczema	103
nurse maid's elbow	75
nutritional condition	47

nystagmus ..... 43, 51, 98, 117

## O

obesity ..... 37, 77, 130  
obidoxim ..... 54  
occlusion/stenosis in aorto-iliacal region ..... 61  
occlusion/stenosis in femoro-popliteal region ..... 61  
occult bacteraemia ..... 78  
occupational illness criteria ..... 125  
odontogenic abscess ..... 68  
odontogenic fistula to skin ..... 68  
odontogenic maxillary sinusitis ..... 68  
oesophageal atresia ..... 66  
oesophageal rupture ..... 66  
oesophageal varices ..... 38, 66, 108  
oesophageal atresia ..... 80  
oestradiol ..... 56  
oestrogen/gestagen oral contraceptives ..... 56  
omphalitis ..... 80  
omphalocoele ..... 80  
open ( ..... 113  
open and closed traumatic vascular lesions ..... 60  
opening the skull ..... 49  
opiates (morphine, pethidine, tramadol, codei ..... 53  
opiod-related disorders ..... 93  
optic atrophy ..... 98  
optic disc cupping ..... 98  
optic neuropathy, e.g. optic neuritis ..... 98  
oral antidiabetics ..... 57  
oral candidiasis ..... 82  
orbital fractures (blow-out fracture) ..... 113  
orchitis, oophoritis, epididymitis ..... 78  
organisation of consultations and office hour ..... 34  
organizational forms of health insurers ..... 135  
orientation, consciousness and memory ..... 95  
oropharyngeal thrush (candidiasis) ..... 109  
oropharyngeal tumors ..... 68  
orotracheal intubation ..... 83  
orthoptic examination ..... 101  
Osgood-Schlatter disease ..... 37, 67, 81  
osteoarthritis deformans ..... 36  
osteochondritis dissecans ..... 66  
osteogenesis imperfecta ..... 35, 81  
osteomalacia ..... 36  
osteoporosis ..... 29, 35, 90, 130  
osteosarcoma ..... 81  
other arrhythmias ..... 45  
other infectious pneumonias ..... 44  
other valvular heart disease ..... 45  
otitis media, otitis externa, mastoiditis ..... 78  
otogenic brain abscess ..... 110  
otogenic facial palsy ..... 111  
otogenic meningitis ..... 111  
otomycosis ..... 110  
otosclerosis ..... 108  
otoscopy ..... 114  
ototoxic hearing loss ..... 117  
ovarian cyst ..... 86

## P

pain ..... 25, 26, 27, 28, 29, 36, 39, 50, 52, 71, 75, 81, 133  
palmoplantar keratoses ..... 104  
palpation for tenderness ..... 50  
palpation of anterior neck (from behind) ..... 115  
palpation of apical impulse ..... 47  
palpation of arterial pulses ..... 47  
palpation of auricle and mastoid ..... 114  
palpation of breasts ..... 46  
palpation of hernia ..... 71

palpation of lateral neck (from front) ..... 115  
palpation of lymph nodes ..... 48  
palpation of position of fundus ..... 92  
palpation of respiratory expansion ..... 47  
palpation of salivary glands ..... 48  
palpation of skin, tendons, joints ..... 47  
palpation of tactile fremitus ..... 46  
palpation of thyroid gland ..... 48, 115  
palpation of trachea ..... 48  
panaris ..... 65  
pancreas  
    mass lesion, calcification(s) ..... 120  
pancreatic carcinoma ..... 66  
pancreatitis ..... 37, 66  
panic disorder and agoraphobia ..... 93  
papilloedema, e.g. increased intracranial pre ..... 98  
paracentesis ..... 82  
paracetamol ..... 35, 53  
paracetamol overdose ..... 35  
paralytic ileus ..... 39  
paraneoplastic skin manifestations ..... 106  
parasite identification ..... 107  
parasites of bowel ..... 40  
parasympathomimetics and cholesterinase inhib ..... 58  
parotidectomy ..... 117  
partial and generalised seizures ..... 80  
patch test ..... 107  
pathological fracture ..... 64  
pathways of poisons ..... 139  
peak flow rate measurement ..... 83  
pediculosis ..... 82, 89, 105  
pediculosis capitis ..... 105  
pediculosis pubis ..... 89, 105  
pelvic examination ..... 92  
pelvic organs  
    cystic and solid tumours ..... 120  
pelvic traumatism, urethral injury ..... 64  
pelvis and hip ..... 122  
pemphigus vulgaris ..... 103  
penicillin G / penicillin V ..... 58  
peptic ulcer, incl. helicobacter infection ..... 38  
perception ..... 95  
percussion for tenderness ..... 50  
percussion of lungs, lung bases ..... 47  
perforating abdominal trauma ..... 62  
perforation ..... 38, 60, 96, 110, 113  
perforation of stomach ..... 38  
performing a hearing test ..... 124  
performing an ECG ..... 124  
periarthropathia coxae ..... 36  
periarticular injection ..... 50  
pericarditis ..... 45  
perichondritis of auricle ..... 110  
perimetry ..... 101  
perinatal asphyxia ..... 79  
perioral dermatitis ..... 106  
peripheral and central vestibular dysfunction ..... 117  
peripheral facial nerve palsy ..... 109  
peripheral facial palsy/paralysis ..... 43  
peripheral neuropathies not otherwise classif ..... 43  
peripheral venous access (age adapted) ..... 82  
peritoneal cavity  
    fluid, gas ..... 120  
peritonitis ..... 60  
peritonsillar abscess ..... 108  
peritonsillar and retropharyngeal abscess ..... 79  
pernio / frost bites ..... 105  
peroneal palsy ..... 42  
persistent ductus arteriosus ..... 75  
petrosectomy ..... 116  
phaeochromocytoma ..... 37, 62

pharmacodynamic drug interactions	56	postoperative phase including analgesia	73
pharmacogenetic polymorphisms	57	postpartum endometritis	87
pharmacological issues in ageing	39	postpartum haemorrhage	87
phenothiazines	57	postprocessing, data presentation	119
phenytoin	54	posture, bodybuild (upright, stooping, athlete)	71
phimosis	65, 76	potassium salts	57
phimosis, paraphimosis	65	Potter syndrome	76
phlegmon of flexor tendon	65	povidone iodine	56
phone call from or to patient	34	practical X-ray protection	119
photodermatoses in a broad sense	105	precocious puberty	28, 77
physical and biological half-life	121	pregnancy induced hypertension	88
physical and biomechanic principles	137	pregnancy test, urine	92
physical examination of male genitalia	90	pre-malignant disorders	86
physical examination of newborn	83, 92	pre-malignant disorders	86
physical, sensory and social handicaps	85	premature contractions	87
physiological jaundice	84	premature delivery	87
physiology of lactation	84	premature rupture of membranes	87
physostigmin	54	prematurity	80, 98
phytomenadion (vitamine K1)	54	prenatal diagnostics (indications, methods)	84
pilonidal sinus	67	pre-operative care	74
pituitary failure	76	preoperative medication	73
pituitary tumor	62	preoperative risk assessment	73
pituitary tumours	38	preparation and assessment of Gram stain	107
pityriasis rosea	105	preparation and examination of blood film	48
pityriasis versicolor	104	preparation and examination of urinary sedime	48
placenta anomaly	88	preparation of patient for anaesthesia	73
placenta praevia	88	prepatellar / olecranon bursitis	36
placental insufficiency	88	prepatellar bursitis	67
plantar response	47, 51	prerequisites for a pension and other benefit	127
pleomorphic adenoma (benign mixed tumour)	114	presbycusis	117
pleural tap	48	presbyopia	98
pleural, extra-pleural and chest wall conditi	120	prescription of a diet	50
pleurisy	44	prescription of occupational therapy	50
pleurocentesis	83	prescription of physiotherapy	50
pneumoconiosis (quartz dust, asbestos)	126	pressure sores from dental prostheses	112
pneumonia due to other causes	44	prevention of neural tube defects	127
pneumonia due to streptococcus pneumoniae	44	primary and secondary assessment of patients	21, 32
pneumothorax	44, 45, 61, 79	primary and secondary enuresis	76
pneumothorax, spontaneous	44	primary and secondary lymphoedema	64
poisoning by medication	41	primary bone tumors	64
poliomyelitis	79, 134	primary care of the newborn	83
poly- and oligohydramnios	81	primary hyperaldosteronism	37, 62
polyarteritis nodosa	36	primary hyperaldosteronism (Conn's syndrome)	62
polycystic kidney	43, 76	primary liver carcinoma	37
polycystic kidneys	43	primary liver tumor	64
polycythemia	40	primary mild contractions	87
polyhydramnion	88	primary, secondary and tertiary prevention	131
polymyalgia rheumatica	35	principles of advanced cardiac life support (...	21
polymyositis	35, 41	principles of endonasal surgery	110
polymyositis / dermatomyositis	35	principles of genetic transmission	84
polyneuropathy	43	principles of intoxication	139
polyposis coli	38	principles of triage	73
polyps	38, 62, 86, 113	principles of X-ray detection	121
polyps (adenomas, familial polyposis)	62	prion diseases	40
polytraumatism	70	private supplemental insurance	135
population and risk carrier strategies	131	procedures for general anaesthesia	73
porphyrias	46	proctitis	39, 67
portal hypertension	37, 64, 120	proctoscopy	48
position with corneal reflex images	100	program planning and evaluation in public hea	129
position with cover test	100	progressive systemic sclerosis	103
positional test, positioning tests	117	prolonged delivery	87
possibility of sham/apparent death	136	prominent auricle (bat ear, lop ear)	112
postcontusional syndromes	68	promoting healthy life-style	131
posterior epistaxis	109	propagation and reflection of US waves	122
posterior rhinoscopy	115	prostatitis	63
postgastrectomy syndrome (complications)	69	protamine sulfate	54
postmature infant	87	protective measures for exposed individuals	126
postmaturity	79	proton pump inhibitors	53
post-natal depression	89	prurigo	105
post-natal psychoses	89	pseudoarthrosis	70
post-operative care	74	pseudogout	35



pseudomembraneous colitis	62
pseudomembranous colitis	39
pseudophakia (artificial lens)	98
psoriasis	104, 105
psoriatic arthritis	36
psychiatric history	94
psychic reaction to chronic disease	82
psychoactive substance history	94
psychodynamic psychotherapy	95
psychogenic pruritus	106
psychomotor behavior	95
psychomotor development	84
psychoses of the child and adolescent	81
psyllium	57
pterygium	96
ptosis	97, 101
pubertal development	84
pudendal anaesthesia	91
pulmonary embolism	44, 88, 120
pulmonary embolism incl. scintigraphy	120
pulmonary hypertension	45
pulmonary nodules and masses	121
pulmonary stenosis	75
pulse	27, 47
punch biopsy	107
pupil, direct reaction to light and convergen	100
pupillary reaction to close objects	51
pupillary reaction to light	51
pupils, inspection	100
pure tone audiogram	116
purpose of the significance tests	128
purulent otomastoiditis and mastoid abscess	111
pyelitis in pregnancy	88
pyelonephritis, acute, chronic, pyelonephrosi	63
pyloric stenosis	38, 77
pyrimethamin-sulfadoxin	55

## R

radial nerve palsy	41
radiation protection law	119
radiation therapy	49
radiation ulcer	67
radicular syndrome	43
radio-isotopes and radio-tracers	121
raised intracranial pressure	42
ranula	108
Raynaud phenomenon	61
reaction to parental divorce	82
reading of urine sticks	83
receive / hold newborn	91
recommendations for prevention of osteoporosi	130
record Apgar score	91
recovering of balance after a push	51
rectal and anal prolaps	67
rectal cancer	67
rectal examination	50, 71, 91
rectal examination including palpation	71
rectal prolapse	38
rectocele	89
recurrent aphthous ulcers of buccal mucosa	38
reduction of joint dislocation	72
referral to social services	95
referral to specialized psychiatric care	95
reflex sympathetic (Sudeck's)dystrophy	70
reflex sympathetic dystrophy (Sudeck)	36
reflux oesophagitis including Barrett's oesop	38
registration formalities and procedures	127
regulation of body temperature	84
rehabilitation	7, 39, 74, 114
reintegration measures	127

relative risk (incidence ratio and odds ratio	128
relaxation techniques	95
removal of eye lashes	101
removal of wound sutures	72
renal artery stenosis and consequences	61
renal cell carcinoma	63
renal colic	27, 43, 63
renal dialysis	50
repair of episiotomy and lacerations	91
reportable infectious diseases	40
repositioning of closed fracture	72
respiration	27, 47, 84, 115
respiratory distress	44, 64, 80
respiratory distress syndrome	44, 64
respiratory insufficiency	44
responsibilities of organised home care (Spit	130
restless legs	42
retained placental tissue	87
retina, vessel occlusion or bleeding	98
retinal detachment	98
retinoblastoma	80, 98
retinopathy of prematurity (ROP)	98
retinopathy, diabetic	98
retinopathy, hypertensive	98
retrocochlear hearing loss	117
retropharyngeal abscess	79, 108
rhabdomyosarcoma	77
rhesus/ ABO incompatibility	80
rheumatic fever	35, 75, 108
rheumatoid arthritis	36
rhinosinogenic complications	110
ribs	28, 61, 122
rickets	79
rickettsial diseases	40
rifampicin	58
right of policy cancellation subsequent to a	134
rigid oesophagoscopy	116
rigid tracheobronchoscopy	117
Ringer	57
risk factors associated with suicide	81
risks and complications	73
role of affective bonding as a function of ag	84
role of rehabilitation in the disabled elderl	39
Romberg test, Unterberger test	117
rosacea	106
rubella	78, 81, 134
rupture of Achilles tendon	66
rupture of aorta	60
rupture of cervix	87
rupture of diaphragm	62
rupture of ovarian cyst / tubo-ovarian absces	86
rupture of perineum	87
rupture, subscapsular haemorrhage	69

## S

safety considerations and contraindications	119
salpingitis	60, 86, 89
salpingitis (PID)	86
sampling of tissues	138
sarcoidosis	36, 105
sawdust	132
scabies	82, 105
scarlet fever	78, 111
scatter (use of diaphragms, grids)	122
schistosomiasis	40
schizo-affective disorders	94
schizophrenia	94
school difficulties	84
sclerae, inspection	99
scleritis/ episcleritis	98

scleroderma	35, 103
sclerotherapy for varicose veins	50
scoliosis	35, 69, 71, 81, 84
scoliosis, kyphosis, lordosis	69
scopolamin	54
scotoma	99
screening by mammography, bone densitometry	121
screening for scoliosis	84
screening tests of hearing (age adapted)	83
screening tests of vision (age related)	82
seborrheic dermatitis	82
seborrheic eczema	103
seborrheic keratosis	104
secondary glaucoma	97
secondary hypertension	45
secondary liver tumor (metastases)	64
secondary mild contractions	87
sedative-,hypnotic-,anxiolytic-related disord	94
selfpoisoning by other drugs	35
senna glycosides	57
sensory neural hearing loss	117
septic arthritis	36
septic shock	46, 75
septic spondylitis, spondylodiscitis	36
serotonin-and noradrenalin-uptake-inhibitors	54
service contract between physician and patien	131
severe combined immunodeficiency	78
severe injury (schwere Körperverletzung)	137
sexual abuse in child	137
sexual dysfunctions	93
shaken baby syndrome	136
shallow knee bend	52
shock	27, 45, 46, 75, 104
shock, septic shock, septicemias	75
short lip frenulum	68
short stature	28, 77
shoulder distocia	87
shoulder girdle	71, 122
shunting procedures	49
sialadenosis	112
sialography	116
sialolithiasis	68
signal characteristics of important tissues	119
sialolithiasis of salivary glands	111
simple glaucoma	97
sinonasal masses	120
sinus tachycardia	45
sinusitis	42, 68, 78
skin inspection with magnifying glass	107
skin inspection with UV A-light (Wood's lamp)	107
skin lesions in diabetes mellitus	106
skin metastases caused by internal tumours	105
sleep apnoea syndrome	42
sleep deprivation	95
sleep disorders	93
sleep-related problems	81
slipped epiphysis	35
slit-lamp examination	100
small bowel	
solitary mass, dilatation	120
small for gestational age	80
snoring and obstructive sleep apnoe syndrome	108
snout reflex	51
social history	47, 71, 94
social insurance coverage	135
sodium bicarbonate	54
soft tissue	
calcification	119
soft tissue sarcoma	67
soft ulcer	106
solar dermatitis	105
solvents	133
somatoform disorders	93
spasm of oesophagus	38
specific phobias and social phobia	93
speech and language disorders	93
speech audiometry	116
spermatocoele, hydrocoele	64
spina bifida	68
spinal canal stenosis	69
spinal deformation (kyphosis, scoliosis, lord	35
spinal metastases	41
spinal muscular atrophy	81
spinal stenosis	35
spinal tumors	68
spinalioma (squamous cell carcinoma)	113, 114
spine	49, 50, 68, 69, 71, 122
spleen	
enlargement, focal lesion(s)	120
splenomegaly and	69
splints in disaster situations	73
spondylarthrosis, spondylosis	37, 69
spondylitis, spondylodiscitis	36, 69
spondylolisthesis	37, 69
spondylolysis	37, 69
spontaneous abortion	88
spontaneous nystagmus	117
sports-related medical problems	34
squamous cell carcinoma	105, 113, 114
squint, surgery	101
stabilisation of fracture (without plaster)	72
stapedectomy / stapedotomy	116
status epilepticus	42
stereotactic neurosurgery	49
sternum fractures	61
Stevens-Johnson syndrome	103
still-birth	136
stomatitis mycotica	111
strabismus, intermittent	98
strabismus, paralytic	98
streptokinase, tissue-plasminogen-activator	53
stress and adjustment disorders	93
strictures of bile ducts	62
strictures of oesophagus	108
stroboscopy	116
stupor and coma	41
subacute combined degeneration	43
subarachnoid haemorrhage	43
subclavian steal syndrome	61
subconjunctival haemorrhage	96
subcutaneous injection	50
subdural haemorrhage	42, 49
subinvolution of uterus	89
subphrenic abscess	60
substance abuse at the workplace	129
substances falling under the Narcotics Law	130
substances of abuse	58
subungual haematoma	65
subungual melanoma	65
sudden infant death syndrome	28, 75, 136
suicidal risk assessment	95
superficial thrombophlebitis	89
superior epistaxis	109
support delivery in breech presentation	91
suppression	99
suppurative parotitis	111
suprapubic catheter	
changing, rinsing	72
supraventricular premature beat	45
supraventricular tachycardia	45, 75
supravital reactions	136

surgery for acoustic neuroma	50
surgery for cerebral tumour	50
surgery for extradural haemorrhage	49
surgery for intracerebral aneurysm	49
surgery for subdural haemorrhage	49
surgery of pituitary gland	49
surgical infections	63
survival curves	128
symptomatic porphyria	106
symptomatic treatment of pain	50
synovial analysis (cell count, crystals, gram	48
syphilis	41, 81, 106, 110, 134
syringomyelia	43
system	6, 8, 9, 16, 18, 23, 24
systemic lupus erythematosus	35
systemic therapy	95

## T

taking a mid-stream urine sample	48
taking a workplace history	124
taking an occupational case history	124
tapping ascites	48
tarsal tunnel syndrome	66
tasks of Health Leagues	130
techniques in radio-oncology	121
temporal arteritis	35
temporal bone fracture	113
tension headache	42
tension pneumothorax	45
teratoma of sacral region	69
test for arterial insufficiency (Ratschow tes	73
test of tubal function (motility of ear drum)	114
test of visual acuity	51
testicular cancer	65
testicular feminization	90
testicular torsion	75
testing for dysdiadochokinesis	52
testing of deglutition	115
testing of gustatory function	115
testing of nasal respiration	115
testing of sensibility (trigeminal nerve)	115
tests of olfactory function	115
tetanus	40, 63, 79, 134
tetralogy or pentalogy of Fallot	75
the probe (piezo-electric effect, cristals)	122
theophyllin	53
therapeutic drug monitoring	58
therapeutic principles in acute drug poisonin	56
therapeutic spinal tap	50
therapeutic strategies in vascular pathology	120
thermal and corrosive injuries	113
thermal injuries	113
thermal injury	136
thiamine deficiency	46
thiazide diuretics (hydrochlorothiazide)	56
thiourea antithyroid drugs (e.g. methimazol)	56
third person history	94
thoracic outlet syndrome	61
thought (form and content)	95
threatened abortion	88
throat swab	48
thrombocytopenia	40
thrombocytosis	40
thrombo-embolism	87
thrombophlebitis	45, 89
thrombosis, arterial	45
thyroid nodule	38
thyroidectomy	116
tic disorders	29, 93
tics	82

tongue bite	113
tongue, inspection at rest	51
tonsillogenic septicemia	108
torsion of fibroid	86
torsion of testicle	65
torsion tumour / ovarian cyst	86
torticollis	65, 79
toxic contact dermatitis	103, 132
toxic epidermal necrolysis	103
toxocariasis	40
toxoplasmosis	40, 81, 134
tracheal intubation	5, 114
tracheitis	44, 79, 110
tracheobronchial diseases	119
tracheomalacia	112
tracheotomy	114
traffic injuries	
biomechanics	138
traffic injuries of pedestrians	136
traffic injuries of vehicle passengers	136
traffic mass disaster (road,rail, air)	73
transient ischaemic attacks (TIA)	43
transient synovitis of hip	81
transillumination of scrotum	71
transport of casualty	70
transposition of great arteries	76
transtympanic ventilation tube (grommet)	116
transverse fracture of temporal bone	108
transverse lesion of spinal cord	69
trauma to brain and face	68
trauma to soft tissue	67
traumatic facial nerve palsy	109
traumatic gynaecological injuries	87
traumatic lesions of the palate	113
traumatic perforation of tympanic membrane	113
travel-related medical problems	34
treatment of haemorrhage after tonsillectomy	115
treatment planning in radio-oncology	121
Tremor, essential and symptomatic	42
trichiasis	97
trichomoniasis	89, 106
trichotillomania	106
tricuspid regurgitation	46
tricyclic antidepressants	54
trigeminal neuralgia	42
trimethoprim-sulfamethoxazole (cotrimoxazol)	58
trismus,restrictions in opening of mouth	68
tuberculosis	40, 109, 110, 132
tumour of iris	97
tumour of lacrimal gland	97
tumour of orbit	98
tumour with ectopic production of hormones	37
tuning fork tests	116
Turner syndrome	77
tympanometry	116
tympano-ossiculoplasty	116
types of adverse effects, prevention and trea	119
types of contrast media	119
types of radiation	121
types of strangulation	137
typhoid fever	39, 134
typical absence attacks	81

## U

ulcerative colitis	39, 62
ulnar nerve palsy	41
ultrasonographic examination of neck	115
ultrasonographic examinations of salivary gla	116
ultrasound examination	90, 92
umbilical hernia	60

uncertain parentage.....	137	vesicourethral reflux.....	63, 76
undescended testicle (cryptorchidism) .....	65	vestibular compensation .....	117
unstable angina.....	46	vestibular neuritis .....	42, 109
unstable lie / malposition after 36 weeks.....	87	vestibular ototoxicity .....	109
upper airway – upper digestive tract .....	122	vestibular rehabilitation .....	114
upper respiratory tract infections .....	78	vibration .....	52, 133
upward deviation strabismus (hypertropia) .....	98	vincristine / vinblastine .....	55
urethral catheterization in female .....	72	viral croup.....	79, 110
urethral catheterization in male.....	72	viral croup (pseudocroup, laryngitis subglott.....	110
urethral swab.....	73	viral hepatitis.....	37, 132
urethral valves.....	76	viral otitis .....	111
urethritis .....	44, 63, 106	visual disturbances, strabismus, hearing loss .....	81
urethrocoele.....	89	visual evoked response examination .....	49
urinary and rectal sphincter function .....	84	visual fields, Amsler panes .....	101
urinary incontinence .....	27, 63	visual fields, Donders confrontation test.....	102
urinary lithiasis.....	76	vital reactions.....	138
urinary retention .....	27, 63, 86	vitamine A/E.....	59
urinary retention in urogynaecology .....	86	vitamine B1 .....	46, 53, 59
urinary tract infection in pregnancy .....	88	vitamine B12.....	46, 53
urinary tract infection, cystitis, urethritis.....	44	vitamine B12 deficiencies .....	46
urinary tract infections .....	78	vitamine B6 .....	59
urinary tract malformation.....	80	vitamine C .....	59
urinary tract, female and male genital tract.....	122	vitamine D3 and cholecalciferol .....	59
urodynamic examination.....	71	vitiligo.....	103
urolithiasis/renal colic .....	63	vitrectomy.....	101
urothelial tumors .....	63	vitreous haemorrhage .....	99
urticaria.....	82, 103, 104	vocal status.....	117
urticaria pigmentosa .....	104	Von Willebrand's disease.....	40
uterine descent.....	86	vulvitis, candidiasis .....	89
uterine inversion.....	87	vulvitis, herpes-simplex.....	89
uterine prolaps.....	28, 86	vulvitis, pediculosis pubis.....	89
uvulopalatopharyngoplasty.....	116	vulvovaginitis, balanitis.....	78

## V

vaccination (age related).....	83
vaginal carcinoma.....	89
vaginal ultrasound examination of uterus.....	90
vaginal vault prolaps.....	89
vaginitis, atrophic .....	89
vaginitis, candidiasis.....	89
vaginitis, gardnerella .....	89
vaginitis, non-specific bacterial .....	89
vaginitis, trichomoniasis .....	89
valvular heart disease .....	45, 63
vancomycin.....	58
varicella, herpes zoster .....	78
varicocele.....	65
varicous veins (primary, secondary) .....	70
vasa previa .....	88
vasculitis not otherwise classified.....	35
vegetative and sexual history.....	94
veins	
acute and chronic occlusion.....	120
venepuncture.....	48
venous cannulation.....	72
ventricular fibrillation.....	45
ventricular premature beat.....	45
ventricular septal defect.....	45, 75
ventricular tachycardia .....	45

## W

warts .....	107
well child care.....	85
Whiplash injury .....	69
whooping cough.....	79
Wilms tumor .....	63
Wiskott-Aldrich syndrome .....	77
wound abscess.....	70
wound care for minor burns.....	72
wound characteristics .....	70
wound cleaning .....	72
wound debridement with scalpel and scissors.....	72
wound stitching.....	72

## X

xanthelasma .....	97
xanthoma .....	106
xeroderma pigmentosum .....	104
X-ray of spine .....	49

## Z

Zollinger-Ellison syndrome .....	38, 69
zoster oticus (Ramsey Hunt syndrome).....	110