

## Medical Assessment and Decision-Making

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**After the initial contact with a patient, conclusions have to be drawn from all of the given information. What are the various types of diagnostics? Where in the therapeutic process can you apply these? What should you know about the most common classification systems? Read this article and you will be optimally prepared for all the questions on diagnostics and forming an assessment on your medical exams.**



### Particularities of Medical Decisions

Scholars of the field have often pointed to a major peculiarity of medicine: Momentous decisions must be made even if the set of problems has not yet been sufficiently defined. Unclear findings and procedures are also common in other fields - rarely does it all manifest as clearly as it does in the textbook.

Medical decisions are often risk decisions. The regular sense of urgency when working in the medical field usually does not allow for postponing decisions. Often, the priority is minimizing damage and maximizing success.

### Types of Diagnostic Decisions

## Indication

All symptoms, signs, observations, and findings form one cohesive image and result in an action plan. Diagnosis is not an isolated task but rather a continuous work in progress regarding time and content. The diagnostician forms **hypotheses** based on the initial information from the first consultation, anamnesis, observation of behavior, and referral reports.

## Function of the Diagnosis

The diagnosis serves several purposes:

- **Communication among experts:** The use of medical jargon eases, simplifies and economizes communication among specialists. In most cases, a number of pre-considerations have led to a specific term, and a colleague can understand the diagnostic decisions based on just this term.
- **Importance to the patient:** The diagnostic label can relieve (alcoholic instead of “drunk”) or stigmatize (psychiatric diagnosis in employment records).
- **Billing:** The coded diagnosis builds the foundation of billing for health insurance companies and physicians.

## Types of Diagnostics

Three different types of diagnostics can be distinguished:

- **Symptomatic diagnostics:** BEFORE treatment
- **Process diagnostics:** DURING treatment
- **Result diagnostics:** AFTER treatment

### Symptomatic diagnostics

**Symptomatic diagnostics** (also known as initial diagnostics): Based on specific indicators, the physician infers that an illness or mental disorder is present. Unlike the curative, goal-oriented approach of medicine, finding a diagnosis and therapeutic objective in psychological therapy is far more difficult.

**Prognostic** and **selective indication** are meant to convey a suitable treatment method for specific sets of symptoms. However, the patient usually selects the physician, thereby opting for a specific form of treatment beforehand.

### Process diagnostics

**Process diagnostics** accompany treatment and serves the adapting “finishing touch” alongside the treatment already in place. Interim results are important, especially with treatment methods that exhibit great variability in their efficacy. For instance, it is sensible to measure specific parameters each day in the **blood** or **urine** to properly adjust dosages of medication.

Psychological therapy uses process-diagnostic questionnaires that, for example, inquire about improvement/deterioration concerning therapeutic interventions.

### Result diagnostics

**Result diagnostics** are used to evaluate the success of a treatment decision. In order to assess the results, the objectives must be defined and operationalized before treatment.

The treatment objectives should be concrete and comprehensible, such as: "In my career, I would like to no longer be afraid of being exposed and disgraced when holding presentations in front of a large group," instead of, "I would like to no longer be afraid."

## Treatment Decisions

Chances and risks must be weighed before making a treatment decision. These aspects influence the decision:

- Organic-physiological
- Patient's behavioral aspects
- Legal-forensic
- Economic

**Examples:** Decisions on an individual basis as opposed to generalizing

- **Cost-benefit problems** when applying chemotherapeutics during cancer treatment. Are the chances of survival actually significantly higher, balanced with the severe restrictions placed on the patient's quality of life by the side effects?
- **Prioritization:** If an older woman with diabetes mellitus II develops acute heart problems, the forms of treatment (medication, dietary regimen, etc.) may collide. Treating the heart symptoms may have to take priority, even if this may have ramifications in the development of diabetes.

## Fundamentals of Decision-Making



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**Findings** are based on personal interviews, questionnaires, tests and laboratory results. During this process, the initial findings are expanded by more information. **Clinical guidelines** are constantly being elaborated, so that medical decisions continue to be more comprehensible, easily formalized, and standardized.

## The Most Important Classification Systems ICD-10 and DSM-V

**Note:** The two major classification systems ICD-10 and DSM-V will never leave your side in clinical practice. Memorize the basic features and differences of both systems.

<b>International Classification of Diseases (ICD)</b>	<b>Diagnostic and Statistical Manual of Mental Disorders (DSM)</b>
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<ul style="list-style-type: none"> <li>• Since 2012 <b>ICD-10</b></li> <li>• Most important, globally recognized diagnosis classification system in medicine</li> <li>• Published by the <b>World Health Organization (WHO)</b></li> <li>• A <b>multiaxial classification system for mental disorders</b> was developed especially for children and adolescents <ul style="list-style-type: none"> <li>• Physicians are obligated to codify in accordance with ICD-10</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Since 2013 <b>DSM-V</b></li> <li>• Most important classification system in psychiatry</li> <li>• Published by the <b>American Psychiatric Association (APA)</b></li> <li>• Criticism: Even slight deviations in the psyche are deemed mild disorders</li> </ul>
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### Chapters of the ICD-10

Chapter	
I	Certain infectious and parasitic diseases
II	Neoplasms
III	Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism
IV	Endocrine, nutritional and metabolic diseases
V	Mental and behavioral and neurodevelopmental disorders
VI	Diseases of the nervous system
VII	Diseases of the eye and adnexa
VIII	Diseases of the ear and mastoid process
XI	Diseases of the circulatory system
X	Diseases of the respiratory system
XI	Diseases of the digestive system
XII	Diseases of the skin and subcutaneous tissue
XIII	Diseases of the musculoskeletal system and connective tissue
XIV	Diseases of the genitourinary system
XV	Pregnancy, childbirth and the puerperium
XVI	Certain conditions originating in the perinatal period
XVII	Congenital malformations, deformations and chromosomal abnormalities
XVIII	Symptoms, signs and abnormal clinical and laboratory findings not elsewhere classified
XIX	Injury, poisoning and certain other consequences of external causes
XX	External causes of morbidity and mortality
XXI	Factors influencing health status and contact with health services
XXII	Codes for special purposes

The **multiaxial classification system of mental disorders** developed specifically for children and adolescents includes: learning disabilities, motor skill disabilities, severe developmental disorders, attention, activity and social behavior disorders, eating disorders, excrement disorders and tic disorders.

### Axial division of the DSM-V:

- **Axis I:** Clinical disorders and other clinically relevant issues
- **Axis II:** Personality disorders and mental impairment
- **Axis III:** Medical illness factors
- **Axis IV:** Psychosocial and environmentally induced issues
- **Axis V:** Global assessment of functioning

## Quality of Assessment and Quality Management

### Types of Conclusions During the Diagnostic Process

Conclusion	Procedure	Advantage	Disadvantage
<b>Additive</b>	Compiling as much information about the patient as possible	Beneficial if information is lacking, greater precision	work-intensive, cost-intensive, raises lots of irrelevant data

<b>Linear</b>	Information is gradually compiled while considering differential diagnoses	saves time	greater risk of making the wrong decision
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## Quality Management in Diagnostic Decisions



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Physicians make their decisions based on **"hard" objective data** and **"soft" subjective data**, such as questionnaires, patient histories, and interim conversations. Another increasingly common form of systematically documenting subjective observations are patient journals. Quality is monitored through the ongoing documentation of illness and treatment. The **catamnesis** (follow-up history), the final report of treatment of the illness, is the ideal conclusion.

**Catamneses** provide especially valuable information. Weeks, months, or even years after completing treatment, long-term results can thus be recorded and variations of treatment can be compared. These post-evaluations are, however, quite costly as the patients have to be able and willing to be contacted. Unfortunately, this form of efficiency monitoring is rather rarely used for that same reason.

For the assessment of quality of general medical decisions, methods coming from **process and evaluation research** are applied.

**Process research** is aimed at finding out how specific illness and health parameters change during the treatment process.

**Evaluation research**, on the other hand, is directed toward more general results: Systematic measurements of the effects of treatment and the comparison of various treatment methods are intended to measure the efficacy of individual methods of treatment. Various methods of treatment must be compared with one another to ensure that the most effective form of treatment is applied.

### Uncertain when making a diagnostic decision?



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An everyday scenario in medical practice: The physician is not sure which diagnostic decision they should make given the available data. **Meta-analytical studies** can be of help: Publications on treatments for a specific set of symptoms are compiled so that practitioners can obtain an overview of the current research. Based on the most recent research available in this area, scientific criteria may aid in making the decision.

## Criteria for the Quality of Medical Treatments

Monitoring the various types of quality follows different **quality criteria**:

- Scientific criteria
- Economic criteria
- Patient satisfaction

## Conflicts in Decision-Making

**Conflicts in decision-making** are unavoidable, despite the guidelines. Every physician is affected by **intra- and inter-role conflicts**. One common conflict is treating the individual patient while simultaneously considering the bigger picture, especially with regard to expenses. As a practising physician, you will increasingly be faced with this issue, as cost-cutting measures in the health care system become ever more rigid (e.g., limiting surgeries to a specific age group).

### Main categories of medical obligations

- Obligation to preserve life
- Obligation to provide care (while adhering to the autonomy of the patient)
- Obligation to maintain confidentiality
- Obligation to inform and provide information
- Duty of care
- Documentation requirements
- Duty to be available
- Continued training requirement

**Note:** In clinical practice, the **obligation to economize** concerning diagnostic and treatment decisions can be added to the list.

# Disagreement among Physicians: Professional and Positional

A look into physicians' conflict structures is often confusing for patients. Theoretically, every physician can freely and independently make professional decisions. However, this is influenced by hierarchical structures: **Functional authority** (superiority in specialist knowledge) and collegial, **positional authority** (e.g., when the opinion of the chief physician always takes the highest priority). Resolving these conflicts is among the most important professional tasks of a career as a physician.

If all levels of the hierarchy are equally involved in the decision-making process, this is referred to as a **participative leadership style**. This requires an open attitude toward mistakes and good internal communication. If positional authority is emphasized, this is called a **directive leadership style**. Directive leadership styles often hinder open discussion of technical problems and miscalculations.

**Example:** During an internship, you quickly learn whether the station is run under a participative or directive leadership style: How are you viewed and appreciated in the team, and how do the team members act when speaking amongst themselves?

## Decision Errors

The physician makes a diagnostic assessment based on observational and evaluation processes. These not only occur during the initial examination, but also throughout treatment.

### Fundamental diagnostic errors: type I and type II errors

Type I error	Type II error
False positive	False negative
Diagnosing an illness when said illness is not present	Sick patient is deemed healthy

The formation of **diagnostic biases** must especially be considered in professional settings. If it comes down to the opinion of a renowned specialist against the reservations of lesser known colleagues, the opinion of the specialist will be given far greater weight (halo effect).

## Review Questions

Solutions can be found below the references.

**1. The DSM-V is the most important classification system for mental disorders. This system has 5 axes. Which of the following axes is not included in the DSM-V?**

- A. Clinical disorders and other clinically relevant issues
- B. Global assessment of functioning
- C. Socio-psychological illness factors
- D. Medical illness factors
- E. Personality disorders and mental impairment

**2. The ICD-10 is an international classification system used to codify diagnoses. Which of the following statements best characterizes this classification system?**

- A. The ICD-10 only includes illness diagnoses with an organic origin.
- B. The ICD-10 lists operationalized criteria which serve as the basis for deciding which illness is present.
- C. The ICD-10 has a multiaxial structure and is solely based on mental and neurological disorders.
- D. The etiology of the illnesses is especially considered in the ICD-10.
- E. The ICD-10 is a facultative option for codifying illnesses to simplify clinical work, but is not mandatory to use.

**3. Together with a patient who suffers from **diabetes**, an internist would like to come to a decision as to whether the diabetes should be treated by a change in dietary habits or medication (e.g. metformin). Which of the following approaches is not part of a shared decision making process?**

- A. The patient expresses their preference for a specific treatment option.
- B. The physician compiles a precise description of the patient and decides based on that knowledge.
- C. The physician attempts to find out what role the patient would like to take in making the decision.
- D. Advantages and disadvantages of both treatment options are explicitly laid out.
- E. The physician and the patient form a plan of action after making a decision. This plan is worked out by both the patient and the physician after a decision was made.

## References

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**Correct answers:** 1C, 2B, 3B

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