

Medical Assessment and Decision-Making

[See online here](#)

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 in your medical exams.



Peculiarities of Decision-Making in Medicine

Decision-making regarding patient management is often risky and, usually, such decisions cannot be postponed. Often, the priority is to minimize damage and maximize success, even when all the facts surrounding a case have not been established.

Types of Diagnostic Decisions

Indication

All symptoms, signs, observations, and findings form one cohesive image and should result in an action plan. Diagnosis is not an isolated task, rather it is a work in progress. The physician develops **hypotheses** based on information from the first consultation, anamnesis, observation of behavior, and/or referral reports.

The function of diagnosis

A diagnosis serves several purposes:

- **Communication among experts:** The use of medical language eases, simplifies, and economizes communication among specialists. In most cases, several 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 (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 that is common in medicine, finding a diagnosis and therapeutic objective in psychological therapy is much more difficult.

A prognostic and **selective indication** is meant to convey a suitable treatment method for specific sets of symptoms.

Process diagnostics accompany treatment and provide a '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 **blood** or **urine** parameters daily in order to properly adjust drug dosages.

Psychological therapy uses questionnaires that inquire about improvement/deterioration with regard to therapeutic interventions.

Result diagnostics are used to evaluate the success of a treatment decision. 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 when holding presentations in front of a large group" instead of, "I would like to no longer be afraid."

Treatment Decisions

Risks must be weighed before making a treatment decision. The following factors influence treatment decisions:

- Organic-physiological
- Behavioral (patient)
- Legal-forensic
- Economic

Examples: Individualized versus generalized decisions

- **Cost-benefit problems** when applying chemotherapeutics during cancer treatment. Are the chances of survival 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 type 2 develops acute heart problems, the treatment modalities (medication, dietary regimen, etc.) may affect one another. Treating the heart symptoms may have to take priority, even if this could affect the treatment of diabetes.

Fundamentals of Decision-Making



Image: by wr52351, License: [CC BY-ND 2.0](https://creativecommons.org/licenses/by-nd/2.0/)

Findings are based on personal interviews, questionnaires, tests, and laboratory results. During this process, the initial findings are expanded by obtaining 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 are ICD-10 and DSM-5

International Classification of Diseases (ICD)	Diagnostic and Statistical Manual of Mental Disorders (DSM)
<ul style="list-style-type: none"> • ICD-10 (Since 2012) • The most important, globally recognized diagnosis classification system in medicine • Published by the World Health Organization (WHO) • A multiaxial classification system for mental disorders was developed especially for children and adolescents • Physicians are obligated to codify per ICD-10 	<ul style="list-style-type: none"> • DSM-5 (Since 2013) • The most important classification system in psychiatry • Published by the American Psychiatric Association (APA) • Criticism: Even slight deviations in the psyche are deemed mild disorders

Chapters of ICD-10

Chapter	
1	Certain infectious and parasitic diseases
2	Neoplasms
3	Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism
4	Endocrine, nutritional, and metabolic diseases
5	Mental, behavioral, and neurodevelopmental disorders
6	Diseases of the nervous system
7	Diseases of the eye and adnexa

8	Diseases of the ear and mastoid process
9	Diseases of the circulatory system
10	Diseases of the respiratory system
11	Diseases of the digestive system
12	Diseases of the skin and subcutaneous tissue
13	Diseases of the musculoskeletal system and connective tissue
14	Diseases of the genitourinary system
15	Pregnancy, childbirth, and the puerperium
16	Certain conditions originating in the perinatal period
17	Congenital malformations, deformations, and chromosomal abnormalities
18	Symptoms, signs, and abnormal clinical and laboratory findings not elsewhere classified
19	Injury, poisoning, and certain other consequences of external causes
20	External causes of morbidity and mortality
21	Factors influencing health status and contact with health services
22	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, social behavior disorders, eating disorders, elimination disorders, and tic disorders.

Axial division of DSM-5:

- **Axis 1:** Clinical disorders and other clinically relevant issues
- **Axis 2:** Personality disorders and mental impairment
- **Axis 3:** Medical illness factors
- **Axis 4:** Psychosocial and environmentally induced issues
- **Axis 5:** Global assessment of functioning

Quality of Assessment and Quality Management

Types of conclusions during the diagnostic process

Conclusion	Procedure	Advantage	Disadvantage
Additive	Compiling as much information about the patient as possible	Beneficial if the information lacks sufficient precision	Labor-intensive, cost-intensive, includes a lot of irrelevant data
Linear	Information is gradually compiled while considering differential diagnoses	Saves time	Greater risk of making the wrong decision

Quality management in diagnostic decisions



Image: "Journal BW" by Walt Stoneburner, License: [CC BY 2.0](https://creativecommons.org/licenses/by/2.0/)

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) is crucial in management.

Catamneses provide especially valuable information. Weeks, months, or even years after completing treatment, long-term results can be recorded and variations of treatment can be compared. These evaluations are, however, quite costly as the patients have to be contacted. Thus, this form of efficiency monitoring is rarely used.

To assess the quality of general medical decisions, methods from **process and evaluation research** are applied.

Process research aims to determine how specific illness and health parameters change during the treatment process.

Evaluation research 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.

Handling uncertainty when making a diagnosis



Image: "1800s Library" by Barta IV, License: [CC BY 2.0](https://creativecommons.org/licenses/by/2.0/)

In medical practice, it is not uncommon that physicians are unsure of the diagnostic decision they should make given the available data. In such cases, **meta-analytical studies** can help. Publications on treatments for a specific set of symptoms are compiled so that practitioners can obtain an overview of current research. Based on the most recent research available in this area, scientific criteria may aid in making the decision.

Criteria for assessing 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 recommendations and guidelines. Every physician is affected by **intra-role and inter-role conflicts**. One common conflict is treating the patient while simultaneously considering the bigger picture, especially concerning expenses. Practicing physicians are increasingly being faced with this issue, as cost-cutting measures in the healthcare system have increased (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 required 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

Physicians' conflict structure 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 specialized 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 in a physician's career.

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 the open discussion of technical problems and miscalculations.

Example: Interns quickly learn whether their firm adopts a participative or directive leadership style: “How are the team members viewed and appreciated, and how do the team members act when speaking among themselves?”

Decision errors

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

Fundamental diagnostic errors: type 1 and type 2 errors

Type 1 error	Type 2 error
False-positive	False-negative
Diagnosing an illness that is not present	Failing to diagnose an illness that is present

Diagnostic biases must be considered in professional settings. For instance, the opinion of a renowned specialist will be given far greater weight (halo effect) despite the reservations of lesser-known colleagues.

Legal Note: Unless otherwise stated, all rights reserved by Lecturio GmbH. For further legal regulations see our [legal information page](#).