

# Medical Field dataset

## General information about the domain :

- Medical students in Algeria generally undergo **seven** years of training to become a **general** practitioner, consisting of three years of **preclinical** studies, three years of **clinical** studies, and one year of internship. They can then apply for the national residency exam for **specialization** studies.
- On the **preclinical cycle**, students primarily focus on fundamental sciences such as biology, chemistry, anatomy, and physiology.
- On the **clinical cycle**, students complete practical internships in hospitals, where they gain hands-on experience by working alongside experienced doctors
- **Admission** to medical school is based on student selection at the baccalaureate level ( usually access allowed starting from 16/20)
- Medical studies in Algeria are exclusively reserved for holders of the **“Sciences Expérimentales”** baccalaureate , but recently , holders of **Mathematics** baccalaureate had equal priorities for being admitted.
- After passing the national residency exam, admitted students are ranked based on their merit (average score) and then assigned to the available positions to pursue specialization studies for four to five years (e.g., five years for internal medicine and cardiac surgery). Afterward, they take the **DEMS (Diplôme d’Études Médicales Spécialisées)**.
- Finally, they can practice in a state hospital. They are only allowed to practice privately after working for at least two years in a state hospital.

It is important to understand that the main motivation for becoming a doctor in Algeria is the responsibility toward patients and the desire to help others as medical studies are long and sometimes exhausting. It is important to have strong motivation to successfully complete this training.

## Algerian Medical universities :

1. University of Algiers 1 (Université de Algiers – Benyoucef Benkhedda)
2. University of Tlemcen (Université Abou Bekr Belkaid de Tlemcen)
3. University of Oran 1 (Université Ahmed Ben Bella 1)
4. University of Annaba (Université Badji Mokhtar de Annaba)
5. University of Blida 1 (Université Saad Dahlab de Blida)
6. University of Constantine 1 (Université Frères Mentouri de Constantine)
7. Ferhat Abbas Setif University 1 (Université Ferhat Abbas de Sétif)
8. University of Batna 2 (Université Mostefa Ben Boulaïd de Batna)
9. University of Tizi Ouzou (Université Mouloud Mammeri de Tizi Ouzou)
10. University of Ouargla (Université Kasdi Merbah Ouargla)

**Algerian medical studies/career resources :**

- <https://mystidia.com>
  - website for all medical studies resources ( lectures, practical examples,...)
- <https://www.algerianwomeninscience.org/alwismedicalresearchprogram>
  - Medical Research Program dedicated to enhancing medical knowledge and advancing patient care in Algeria
- [http://facmed.univ-alger.dz/images/menu\\_data/Guide\\_etudiant.pdf](http://facmed.univ-alger.dz/images/menu_data/Guide_etudiant.pdf)
  - Student guide of the faculty of medicine of Algiers
- <https://cheatography.com/tag/medical>
  - not an algerian resource but it offers medical cheat sheets
- [https://www.etsy.com/market/medical\\_terms\\_cheat\\_sheet](https://www.etsy.com/market/medical_terms_cheat_sheet)
  - offering some paid cheat sheets on medical terminologies and diseases
- <https://www.scribd.com/document/599259041/Guide-de-l-internat>

- offering a detailed guide on the choice of the medical specialty after 7 years of studies

## **Medical Specialties**

1. **Cardiology**
2. **Pulmonology** (Respiratory Medicine)
3. **Neurology**
4. **Gastroenterology**
5. **Endocrinology** (including Diabetology, Thyroidology, Adrenal Gland Disorders, etc.)
6. **Nephrology**
7. **Hematology**
8. **Dermatology**
9. **Rheumatology**
10. **Infectious Diseases**
11. **Internal Medicine**
12. **Physical Medicine and Rehabilitation**

## **Surgical Specialties**

1. **General Surgery**
2. **Orthopedic and Trauma Surgery**
3. **Neurosurgery**
4. **Cardiovascular Surgery**
5. **Thoracic Surgery**
6. **Digestive Surgery**
7. **Urologic Surgery**
8. **Maxillofacial Surgery**

9. **Plastic and Reconstructive Surgery**
10. **Pediatric Surgery**
11. **Oncologic Surgery**

## **Gynecology and Pediatrics Specialties**

1. **Obstetrics and Gynecology**
2. **Pediatrics**
3. **Neonatology**

## **Mental Health and Neurology Specialties**

1. **Psychiatry**
2. **Child Psychiatry**
3. **Neurology**

## **Medical Imaging and Laboratory Specialties**

1. **Radiology**
2. **Nuclear Medicine**
3. **Pathological Anatomy** (Anatomical Pathology)
4. **Medical Biology** (Clinical Biology)

## **Anesthesia and Intensive Care Specialties**

1. **Anesthesia and Critical Care**
2. **Medical Intensive Care**

## **Public Health and Preventive Medicine Specialties**

1. **Occupational Medicine**
2. **Forensic Medicine**
3. **Public Health**

# Information about some specialties :

## Cardiology

### Description:

Cardiology focuses on the study, diagnosis, and treatment of heart and blood vessel diseases, including ischemic heart disease, heart failure, and arrhythmias.

### Key Skills:

- Strong understanding of cardiovascular physiology
- Proficiency in diagnostic tools like ECG and echocardiography
- **ECG (Electrocardiogram):** A test that records the electrical activity of the heart over time (like a time series ). It checks the heart rate, rhythm, and muscle function.

| Video showing the exam procedure

- **Echocardiography:** Uses ultrasound (no radiation) to visualize the heart, its valves, and major vessels.

### Advantages:

- Significant public health impact by managing common cardiovascular diseases
- Possibility of subspecializing in areas like **Interventional Cardiology**

### Drawbacks:

- High-stress and emergency management
- Irregular working hours, including on-call shifts

### In Algeria:

[Algerian Society of Cardiology – sacardio.org](http://sacardio.org)

## Endocrinology

### Description:

Endocrinology is the medical specialty dealing with hormones, their physiological effects, and associated disorders. It covers:

## **Subspecialties within Endocrinology:**

### **1. General Endocrinology**

Diagnosis and management of hormonal disorders across multiple endocrine glands.

### **2. Diabetology**

Management of **Type 1 and Type 2 Diabetes** and complications like neuropathy, retinopathy, kidney failure, etc.

### **3. Thyroidology**

Treatment of thyroid disorders: hypothyroidism, hyperthyroidism, goiter, thyroid nodules, thyroid cancer.

### **4. Neuroendocrinology**

Focuses on the interaction between the nervous system and hormones (e.g., pituitary and hypothalamic disorders).

### **5. Andrology and Reproductive Endocrinology**

Hormonal disorders affecting male fertility and testosterone deficiency.

### **6. Gynecological Endocrinology**

Hormonal disorders in women: PCOS, menopause, amenorrhea, hormone-related infertility.

### **7. Pediatric Endocrinology**

Hormonal disorders in children: growth delays, precocious or delayed puberty, juvenile diabetes, congenital hypothyroidism.

### **8. Endocrine Oncology**

Cancers of endocrine glands: thyroid cancer, pheochromocytomas (adrenal), insulinomas (pancreas), pituitary tumors.

### **9. Metabolic Endocrinology and Obesity**

Management of metabolic imbalances: obesity, metabolic syndrome, lipid disorders (cholesterol, triglycerides).

**Key Skills:**

- Deep knowledge of hormonal systems and regulation
- Expertise in managing chronic diseases
- Ability to interpret complex diagnostic tests

**Advantages:**

- Long-term patient relationships
- Dynamic field with evolving treatments and technologies

**Drawbacks:**

- Need for continuous learning and staying updated
- Long-term patient care can be demanding

## **Internal Medicine**

**Description:**

Internal medicine is a broad specialty focused on the diagnosis and management of complex and rare diseases affecting internal organs, often involving multiple systems. The **internist** evaluates patients holistically, requiring thorough investigations and often coordination with other specialists (cardiology, endocrinology, neurology, etc.).

**Key Skills:**

- Broad knowledge across multiple medical fields
- Analytical and synthetic thinking for complex case management

**Advantages:**

- Variety of clinical cases
- Holistic view of the patient's health

**Drawbacks:**

- Diagnostic complexity requiring constant learning

- Heavy workload due to the diversity of cases

**In Algeria:**

Internal Medicine at Ibn Sina Clinic

## **Section 1: General questions for Medical Studies**

**1. How do you handle long study hours and challenging academic content?**

- A) I enjoy studying for long hours and thrive under academic pressure.
- B) I can manage long study sessions but find them exhausting.
- C) I struggle with extended study periods and prefer short, focused learning.
- D) I dislike intense studying and prefer practical learning.

**2. Are you comfortable with handling stress and working under pressure?**

- A) Yes, I perform well under pressure.
- B) I manage stress but sometimes feel overwhelmed.
- C) I struggle with pressure but try my best.
- D) I avoid stressful situations whenever possible.

**3. How well do you perform in science subjects (Biology, Chemistry, Physics)?**

- A) Excellent
- B) Good
- C) Average
- D) Below average

**4. How do you feel about working closely with patients and dealing with their emotions?**

- A) I feel very comfortable and empathetic.



- B) I can manage well but might struggle emotionally.
  - C) I prefer minimal interaction with patients.
  - D) I find it difficult to handle emotional situations.
5. **Which of the following best describes your motivation for pursuing medicine?**
- A) Strong passion for helping others and interest in science.
  - B) Stability and financial security.
  - C) Family expectations.
  - D) Uncertain, but I am exploring options.
6. **How do you rate your ability to memorize and recall large amounts of information?**
- A) Excellent
  - B) Good
  - C) Average
  - D) Poor
7. **Are you willing to dedicate at least seven years to studying and training in medicine?**
- A) Yes, I am fully committed.
  - B) Yes, but I am concerned about the duration.
  - C) Maybe, if I do not find a shorter alternative.
  - D) No, I prefer a shorter educational path.

## **Section 2: Medical Specialty Preference Questionnaire**

1. **Do you prefer working in a hospital or a private practice?**
- A) Hospital

- B) Private practice
  - C) Both
  - D) Not sure
2. **Are you more interested in diagnosing and treating diseases or performing surgeries?**
- A) Diagnosing and treating diseases
  - B) Performing surgeries
  - C) Both
  - D) Neither
3. **Do you enjoy working with children, adults, or all age groups?**
- A) Children
  - B) Adults
  - C) All age groups
  - D) Not sure
4. **Which type of medical work do you find most appealing?**
- A) Direct patient care (e.g., Internal Medicine, Pediatrics)
  - B) Surgical procedures (e.g., General Surgery, Orthopedics)
  - C) Laboratory and diagnostic work (e.g., Radiology, Pathology)
  - D) Mental health and counseling (e.g., Psychiatry, Neurology)
5. **How comfortable are you with handling emergencies?**
- A) Very comfortable, I enjoy high-pressure situations.
  - B) I can manage but prefer structured environments.
  - C) I prefer predictable and less intense settings.
  - D) I am not comfortable with emergencies.
6. **Are you interested in a specialty that allows for work-life balance or one that requires long working hours?**

- A) Work-life balance is important.
- B) I am willing to work long hours if necessary.
- C) I do not mind either, as long as I enjoy the work.
- D) I prefer flexible work hours.

**7. Which medical specialty field do you find most interesting?**

- A) Internal Medicine (e.g., Cardiology, Endocrinology, Neurology)
- B) Surgery (e.g., General Surgery, Neurosurgery, Plastic Surgery)
- C) Diagnostic and Laboratory Medicine (e.g., Radiology, Pathology)
- D) Public Health and Preventive Medicine (e.g., Epidemiology, Occupational Medicine)