Mashhad University of Medical Sciences

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Mashhad Faculty of Medicine was officially opened on Nov. 23, 1949 by Dr. Zanganeh, the minister of culture. The school started out with 61 students, one associate professor and seven tutors. In 1956, when the school of Arts opened, the two schools merged together to form the University of Mashhad. In 1989, the faculties offering Medical Sciences’ degrees across the country separated from the Ministry of Culture and Higher Education. New emerging Medical Universities have gone under management of Ministry of Health, Treatment and Medical Education. Thus the original University of Mashhad was divided into two independent universities: “Ferdowsi University of Mashhad” and “Mashhad University of Medical Sciences”. Mashhad University of Medical Sciences operates at present with 9 faculties, 44 hospitals, 120 rural and 125 urban health centers, 146 clinics. With 705 teaching staff, 1179 MDs with different specialties, 124 dentists, 102 pharmacists and 19000 employees, the university provides health care and medical services to the area’s large population as well as to over 25 million tourists a year.

History
Mission

MUMS (Mashhad University of Medical Sciences) mission is to provide highly standard education to our students and improve our community health. It accomplishes these goals by providing educational opportunities in many biomedical and clinical sciences, by conducting research on the variety of areas, by providing comprehensive, innovative and cutting-edge patient care, and by facilitating public access to education and care through its public service and outreach activities.

MUMS has a four-part, province wide mission to provide:

- Educational programs and an environment that stimulates the spirit of inquiry, initiative and cooperation among students, faculty and staff
- High-quality health care emphasizing the application of new knowledge
- Basic and clinical research that promotes health, prevention and treatment of diseases
- Outreach programs in health education, research and patient care that support the university’s mission to serve as a province wide resource for health care providers.
Overview

Foundation date: 1949
Mashhad University of Medical Sciences is located in Mashhad city, which is the capital of one of the biggest provinces of Iran, Khorasan Razavi. The city lies on a plain between two mountain ranges of Binaloud and Hezarmasjed, in the north-east of Iran. Mashhad University of Medical Sciences opened its doors in November 1949 with an enrollment of 61 students for the faculty of medicine. When MUMS opened, it was the forth iranian university. More than sixty three years later, in spring of 2012 there are about 6500 students in 8 faculties and 13 teaching hospitals of the university. At present, from the routine to the advanced, MUMS offers a broad spectrum of clinical experiences. Indeed, as the largest medical center in the east of Iran, MUMS is a major referral center for approximately all the subspecialties of medicine. At the same time, it is recognized for its commitment to preventive healthcare and primary care. The university seeks to serve as a center for intellectual and cultural growth as it nurtures an educational environment that respects individuality and stimulates creativity.

While providing advanced training for students and residents, the commitment of our medical staff to remain up-to-date with the latest breakthroughs in medicine gives our patients the opportunity to access the highest quality care. Today, Mashhad University of Medical Sciences continues to excel. Worship of GOD Through Service to Man
GUIDING VALUES

Mashhad University of Medical Sciences is committed to:

- Maintaining the highest international and Islamic standards of ethics and equality in research, teaching and administration.
- Advancing the intellectual, cultural and especially medical welfare of Khorasan Razavi.
- Working with other national and international universities to enrich intellectual discourse.
- Creating a diverse, harmonious scholarly community committed to equity and merit as the fundamental principles through which staff and students are encouraged and assisted to realize their full potential.
- Achieving EXCELLENCE through teamwork, leadership, creativity, and a strong work ethic.
- Achieving EFFICIENCY through wise use of human and financial resources.
- Building relationship on honesty, integrity, and trust.
Mashhad University of Medical Sciences is the main responsible of health of the Khorasan Razavi community. Its fundamental purpose is to ensure and improve the health of all people of Khorasan Razavi.

This vital responsibility requires the kind of synergism fostered in MUMS academic environment among its patient care, education, research and community service components.

The benefits that accrue to the citizens of Khorasan Razavi from the existence of MUMS as an academic health center in the province include:

- The highest quality, most advanced care backed by leading-edge medical innovations, modern technologies and research
- A complete range of health care and services, from the basic to the highly specialized
- Training for the health care professionals and biomedical scientists of today and tomorrow
- A magnet for the intellectual capital needed to build on today’s knowledge for tomorrow’s world
- Care for sick, most vulnerable and underserved citizens.
Faculty of Dentistry

History:
Mashhad School of Dentistry (MSD) is among the oldest academic dental institutions in Iran, which was established in 1965 by Dr. Badri Teymourtash and Dr. Esmael Sondoozi, and graduated its first class of 27 students in 1971. Thanks to their efforts today the dental school graduates over 80 dentists and 25-30 specialists every year in respond to the community demand and improving public health. We have reached many honors in our 47 years of experience and with more than 104 dedicated faculty in 11 fields of dentistry, we are standing at the height of oral health education, delivery of patient care, and research. However we are particularly well prepared to continue to make significant contributions to our profession’s body of knowledge through our active faculty research, outstanding curriculum and the advanced dental clinic in the country. Now the School is an integral member of Mashhad University of Medical Sciences and offers nationally ranked academic programs.

Mission:
Dentistry offers the opportunity to blend science, human relations and technical skills into a satisfying profession. The mission of Mashhad Dental School is to provide excellent education to dental professionals throughout their careers; to shape the future of dental medicine and dental education through research; to offer excellent patient care services; and to participate in community activities. Our values and dedication remain constant, carrying forward and building upon the great work of the past.
History

In 1972, the Nursing institute was established in Mashad, admitting 140 students in the fields of nursing, midwifery, radiology and laboratory sciences. After the Revolution, the name of the institute was changed to Narjes Nursing and Midwifery Higher Education Institution.

After the Ministry of Health, Treatment and Medical Education gained independence in 1986, the institute merged with Jorjani Nursing and Midwifery Educational-Research Complex and its name was changed to «Faculty of Nursing, Midwifery and Paramedical Sciences of Mashhad University of Medical Sciences».

In 1991, the faculty was separated into two independent faculties: «Faculty of Health and Paramedical Sciences» and «Jorjani Faculty of Nursing and Midwifery».

In 1993, the optometry department was added to the educational departments of the faculty. The faculty was originally located in Gahem hospital at Azadi Street but in 2001 it was transferred to its present place in Falestin Blvd.

Educational Facilities of Paramedical School

A library with a structure of 241 Square m., accommodating 60 students. The library has 2 reading halls, 9702 Persian books (2000 titles); 2244 Latin books (630 titles); 30 Persian journals and 12 international journals; 56 Thesis; the library is equipped with the medical databanks including Medline, online banks and educational CDs

The audio-visual unit of the library is equipped with 16 overhead projectors, 12 slide projectors, 12 opaque sets, 3 TV sets, 5 PCs, 16 data projectors, 2 video sets, 3 negatoscope sets and educational moulages. Computer laboratory accommodating 30 Students Laboratory for teaching HIS software Health center model with a capacity of 12 Students Two computer centers: One center holds 20 pentium4 computers for male students and the other center holds 25 pentium4 computer for female students

First aids practical room with a capacity of 12 Students Biochemistry, immunology, microbiology, hydraulic, water and sewage microbiology laboratories with a capacity of 15 students each and hematology laboratory with a capacity of 22 students Motor pump workshop with a capacity of 15 Students Surveying and drawing workshop with a capacity of 16 students
Faculty of Nursing and Midwifery

History
Jorjani nursing and midwifery higher institution, Toos midwifery higher institution, the institute of laboratorial sciences and the health schools higher institution affiliated with the former ministry of health, under the name of "the Educational and Research Complex", and were combined in 1979. Constituting the ministry of health, treatment and medical education in 1986, Mashhad faculty of nursing, midwifery and paramedical sciences came to exist through the combination of educational and research complex and the nursing and midwifery higher institution of Mashhad university. Then, the faculty was divided into two faculties of paramedical sciences and faculty of nursing and midwifery in 1991 and Dr. Rasool Mir Shah Valad was its dean in 1986, i.e. the establishment date of the faculty.

Particulars of Mashhad Faculty of Nursing and Midwifery
This faculty is situated on a parcel of land measuring 10000 Sq m at Ebn-e Sina St., Mashhad, Iran, in 2 blocks; 22 classrooms; 2 meeting halls with a capacity of 600 students and a library with a capacity of 130 students.
This faculty admits 290 students annually in October and February and currently 1000 students (700 girls and 300 boys) are studying at associate, BSc and MSc levels at the said faculty.
Associate degree program includes anesthesia and surgery room fields, BSc degree program (continuous and non-continuous) includes nursing and midwifery field and MSc degree program includes nursing fields (social health; management education; internal and surgery nursing training; children nursing training and mental health nursing training) and midwifery fields (midwifery education and mother and child health.) Also, Mashhad faculty of nursing and midwifery admits 25 students for its evening programs for associate degree in the fields of surgery room and anesthesia, for non-continuous BSc degree in the field of nursing and midwifery. This faculty will admit 30 students in the field of medical urgencies from February 2004. Seventy seven persons are worked at this faculty as teaching staff.

Educational Facilities of the Mashhad Faculty of Nursing and Midwifery
Library with a roofed area of 350 Sq m and a capacity of 130 students having two halls for boys and girls; magazine dept.; informatics, internet and journals dept.; 14000 Persian books; 2000 Latin books; 20 different Persian journals and 16 different international journals; equipped with medical data banks including Medline, online banks and educational CDs.
Audio-visual unit of the faculty is equipped with different mannequins; electrocardiogram set; slide projector; overhead set; opaque set; PC; data projector; video set; TV set; educational films and two training halls.
Two practical training halls equipped with the hospital, maternity hospital and surgery room wards facilities.
Two specialized training halls equipped for the students of midwifery and anesthesia. Computer educational unit equipped with more than 20 computers.
Faculty of Medicine

History:
The present school of medicine was originally a primary school named Hemmat, which was changed to “Health Higher Education Institute” in 1941. The name was changed to Mashhad Faculty of Medicine in 1949 during the time of the late Dr. Zangeneh when was the minister of culture. In the first Year, the school had 61 students, one Associate professor and seven teachers who were teaching on hourly basis. First Dean of the school was the late Dr. Hossein Sami Rad.

Present Status of the Faculty of Medicine:
The school of medicine is located in a piece of land with an area of 54720 square meters on Pardis campus. It has four stories which accommodates the Educational departments of Anatomy, Histology, Embryology, Biochemistry and Medical Physics… The school has a library, two studying rooms, 14 general Classrooms, two specialized classrooms, 6 laboratories and two Conference halls accommodating 1000 Students. The School admits 120 students annually, 60 for the first semester and 60 for the second semester. The students currently studying at various levels at the faculty are as follows:
- 1213 students studying clinical and basic sciences courses
- 116 students studying graduate (81) and PhD in basic sciences (35) courses
- 439 students studying various specialized courses
- 29 students doing super specialization courses also the teaching staff consists of the following:
- 43 full-professors
- 218 assistant professors
- 102 associate professor
- 20 instructors

Mashhad Faculty of Medicine has 8
educational departments and five assistant directors for teaching basic sciences, clinical courses, research, graduate programs and financial and administrative affairs.

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**Objective:**
The purpose of this course consists of public education for doctors, with following characteristics:

- **Introduction** to help provide health care for the people
- Be familiar with the Islamic culture and Islamic Republic system and know the required regulations governing the Islamic society
- To have enough knowledge about health services system and be aware of their duties and responsibilities of the system in the country
- To have enough scientific and practical knowledge to function in the diagnosis of diseases and referring patients to higher health authorities and participation in programs of prevention and public health
- Be able to use the latest scientific resources and new information in their work

**Course length and shape:**
Medical training is a total of seven years and includes stages: basic sciences, typology, physiopathology, clinical training and internship

**Courses:**
The total number of medical courses are 290 units: 152 credit courses and 138 units in typology, training, internship and thesis

- Public courses 23 units
- Main courses 68 units
- The second phase 30 units
- Training 95 units
- Internship and night shifts 68 units
- Thesis 6 units
History

In the decade 1940 at the Medical School building, located on University Avenue, was a primary School called Hemmat which later became the Institute of Higher Health. It was officially changed to Mashhad Medical School in 1949.

After the glorious Islamic Revolution, the first group of 1983 students were admitted in integrated regional research and education organization of Mashhad.

In 1985 two groups of Associate degree in public health family (girls) and fight against diseases (male) students were accepted.

It was named, School of Nursing, Midwifery and Allied Health Sciences, Mashhad University of Medical Sciences

In 1986. In 1991 the institute was segregated to two independent schools of Nursing and Midwifery, and the Faculty of Medicine and Health Sciences. The location of the faculty of Medicine and Health Sciences was first in Ghaem Hospital and then it was moves to the beginning of Palestin Boulevard in February 2001.

The most important changes in health-related disciplines in the School are as follows:

- the first group of public health technician, following the decision of the Supreme Council of Cultural Revolution in 1985
- Acceptance of the first period of
discontinuous Undergraduate Public Health in 1987

- Environmental Health undergraduate admissions in 2003

**Mission:**

Bachelor Science of Environmental Health is an undergraduate degree in higher education system. Aim of this Department is to train the experts that could be able to recommend the ways to solve the environmental problems and also attend in the designing and management of systems in the fields of waterworks, water treatment, collection and disposal of urban and industrial wastewater, collection and disposal of solid wastes and control of air pollution in large communities.

**Environmental science**

*Environmental science* is the study of interactions among physical, chemical, and biological components of the environment. Environmental science focuses on pollution and degradation of the environment related to human activities and their impact on biodiversity and sustainability. An interdisciplinary field, environmental science also applies knowledge from economics, law and social sciences. Physics is used to understand the flux of material and energy interaction and construct mathematical models of environmental phenomena. Chemistry is applied to understand the molecular interactions among natural systems. Biology is fundamental to describing the effects within the plant and animal kingdoms.

Environmental science came alive as a substantive, active field of scientific investigation in the 1960s and 1970s. This was driven by the need for a large multi-disciplined team to analyze complex environmental problems, the arrival of substantive environmental laws requiring specific environmental protocols of investigation, and growing public awareness of a need for action in addressing environmental problems.

Environmental science encompasses issues such as climate change, conservation, biodiversity, groundwater and soil contamination, use of natural resources, waste management, sustainable development, air pollution and noise pollution. Due to the interdisciplinary nature of environmental science, teams of professionals commonly work together to conduct environmental research or to produce Environmental Impact Statements.

Other professional organizations engender work in environmental science and aid in communication among the diverse sciences.

**Terminology**

One can distinguish between “environmental science” and “ecology”, since the two fields embody different foci of investigation, although there is considerable overlap. *Ecology* and *environmental science* both focus on the interactions of populations of organisms with their environment (including parameters such as meteorology, environmental noise, water quality, air quality, and soil chemistry). A dissimilarity is that ecology is often concerned with issues of biodiversity and the distribution of organisms, while environmental science may address interactions of physical parameters that may not involve biological systems directly, but exert some influence on it. One can consider “ecology” as a basic sub-category to environmental science in analyzing biological systems, both on local and global scales.
Faculty of Pharmacy

History
The former name of this faculty was Faculty of Drug Sciences and Nutrition, which was established in 1971 inside the faculty of Sciences at Asrar Avenue. The first dean of the faculty was Dr. Bahram Tadayyon. The faculty was finally transferred to its present place at the campus of Mashhad university at Vakil Abad Blvd. in 1982.

Educational Facilities:
Laboratories of industrial pharmacology, drugs microbial control, Drug Formulation, pharmacodynamics and toxicology, Pharmaceutical chemistry, organic chemistry, general chemistry, HPLC, analysis, pharmacology, Medical Terminology, herbarium, Animals’ room.
A library with a superstructure of 400 sq m., accommodating 112 students. The library has 4410 Persian books, 4828 Latin books, 100 Persian journals and 165 international journals; The library is equipped with the medical databanks including Medline, online banks and educational CDs.
The audio-visual unit of the library is equipped with a camera, a handy cam, a photography camera, a VCD, a VCR, a CD bank, educational English cassettes, two TV sets.

Conditions for admission to the Faculty of Pharmacy:
Applicants are required to have the high school diploma (diplomas received abroad must be confirmed by the ministry of education), to pass the related entrance examination, and to have no physical disability.
Length of the program is 5 years, which can be extended to 9 years at most.

The students are required to pass the following courses:
Basic Sciences courses: 90 credits
Specialized courses: 105 credits
Thesis: 8 credits
The faculty has admitted 4 assistants in Pharmaceutics and 4 Assistants in biotechnology since 2002.
Definition of traditional medicine
In 1978 the World Health Organization issued a statement regarding the development of traditional medicine. Traditional medicine is defined briefly in this statement:
Set all the theoretical sciences and science in medical diagnosis, prevention and treatment of physical illness, mental or social disorder, and are transferred as a verbal or written statement from generation to generation.
Traditional medicine has been defined in more detail by the World Health Organization (WHO) in 2002:
Traditional medicine is a general term that refers to traditional medicine systems such as traditional Chinese medicine, Ayurveda medicine in India and the Greek - Arabic and various forms of indigenous medicine. Traditional treatments include drug therapy (the use of medicinal plants, animal and mineral components) and non-pharmacological methods (such as acupuncture, massage and psychological treatment).

In countries where medical services in their system is based on modern medicine, instead of traditional medicine, terms of CAM therapies, non-conventional or alternative medicine are used.

Iranian traditional medicine:
Iranian traditional medicine, is a full and dynamic school (Maktab). Roots of Iranian traditional medicine school is believed to be over 3000 years ago. The Greeks were taught by ancient Iranian medical Doctors (hakeems). Star Iranian traditional medicine, such as Ibn Sina, Razi, Ali ibn Abbas Ahvazi, Ibn Abi Sadiq Nishaburi, Imad al-Din Mahmoud Shirazi, and Sayed Ismail Jarjani were responsible guidance about eight centuries of medicine in the West and East.

Doctor Norman Howard Jones writes in the Journal of the World Health Organization in 1972:
The most important author of medical books in Islam is Abu Ali Hussein Ibn Sina. His medical books are the most famous books in history of medicine and has been taught in medical schools in Europe and Asia for the Period of 500 years.

Scientific logic of Iranian traditional medicine:
The principles of nutrition in the school of Iranian traditional medicine is based on a sentence that the special nutritional needs of each individual is assumed based on their individual characteristics. Iranian traditional medicine emphasizes the prevention of disease by teaching the correct way of life and successful medical practitioner knows that maintain community health is based on self-management and will decrease the number of patients.

The Iranian traditional medicine, the diseases can be divided into three categories: A) bad mood disorders
And those who did not respect the principles of nutrition for their health a plurality of one or two quality of the four qualities have been (cold, warm / dry or moist) in the body
B) adverse conditions in combination
Which is a combination of diseases or natural part of the body is impaired as someone who is born without part of the body.
C) segregation and joint diseases
Here are a member of the natural connection is lost (e.g. fractures) and normal scattering is lost (e.g. due to organ motion is restricted Malunion). It comes to treatment after diagnosis, the treatment in Iranian traditional medicine is the way that the first step is to treat diseases by diet measures, and then turn to the work by hand (boasted measures), such as surgery, phlebotomy and ... Reached.
A Brief History:

Imam Reza Hospital is the largest center among referral centers in Mashhad. Its construction was initiated in 1928 in a 28.5 acres piece land and on infrastructure of 2500 square meter. It was inaugurated in 1934 under the name of Shahreza. In the beginning, it had only 100 beds and departments including Internal Medicine, Surgery, Ophthalmology, Pediatrics, Infectious Diseases, Maternity, General Clinic, Laboratory, Radiology, Dentistry, Animal Autopsy and other associated sections. IN 1934 the department of Otolaryngology started working and the numbers of beds were increased to 250 until 1948 and 1949. In 1962, the late Dr. Bool Ven was the head professor for surgery ward. This Sympathetic Belgium Doctor, who converted to Islam after his acquaintance with this religion, has been practicing his knowledge for years with compassion. In those years 45 doctors were involved. One Dentist, Six Chemists, 18 Medical Assistant, 270 nurses and five midwives were responsible for all medical affairs. In 1975, Astaneghods preceded a ninety-year entrustment protocol according to which the hospital was transferred and directed by supervision of Ferdowsi University. Afterwards, the hospital started to act as a center for medical education. According to some recorded information the number of beds had been increased to 363 by that time. The great Islamic revolution of Iran caused to change its name from Shahreza to Holly’s name of Imam Reza.
About Hospital:
Having 856 beds, now Imam Reza hospital is considered one of the biggest general hospital and a reputation centre for education and treatment in the whole country. Besides being a base for patients who seek help and advice, the hospital is a well-known core for medical education and research. Students of all pertinent medical fields are taught up to specialty and sub-specialty ranks and each year a number of extern, Interns and residents are scientifically trained under supervision of medical staff of various hospital wards. It also has a vast treatment covering including clinics and emergency departments, which offer an active circadian service employing on duty of Internists and surgeons. Our polyclinic consists of the following: Orthopedics, Urology, General Surgery, Dermatology, Ophthalmology, Internal Medicine, ENT, Maternity, Intoxicated and Injured, Dressing and Injection unit, Health and Family Planning. There are also sections, which are involved in patient’s general affairs such as admission, medical documents insurance expertise and social work. Hospitalization needs are met by accommodations in interior departments of Orthopedics, Urology, Surgery, Cardiology, CCU, Internal Medicine and ICU, Ophthalmology, ENT, Dermatology, Rheumatology and Hematology, Pediatrics, Neonatal ward and ICU, Gynecology and Obstetrics, Infections and Tropical disease, Burns, Dialysis and ESWL. The Diagnoses are supported and confirmed by Para clinical Facilities like Radiology, CT-Scanning, Nuclear Medicine, Central Laboratory, Physical medicine and Eudiometry.
1. History:
Dr. sheikh hospital started his work in 1951 with the name of clinic number 2 with the purpose of treating contagious diseases in a land with an area of 5638/25 m². With development of Mashhad and increase of population and Holy shrine of Imam Reza, founding one special center for children was one the most important problem of those days. So with the high effort of the charitable institute of sarvar, clinic was destroyed in 1990 then a building was constructed in 1996 and was given to Mashhad University of Medical Sciences.

2. Naming Hospital to Dr. sheikh:
Regarding good morality and his way of treatment for needy people. We can mention his way of receiving money for the patient’s visit. He located one bin in exit section of his office that every patient paid as he/she could.
Dr. Morteza sheikh was a physician who did his duty eagerly. His presence for patients in bed was a balm for them. His sacrifice and loveliness made the officials of the university of those days to decide this center to Dr. sheikh with inspiration from the famous poet of Persia, Saady, who said:
“Saadiya a man with good name never dies”
3. Establishing Sarvar Institute and its activities:

With the super attempt of Mr. Akbar Alizadeh Rad & spending personal expenses, several educational buildings in elementary & secondary levels and hygienic centers were constructed in the further parts of country specialty deprived parts and given to education & hygiene offices.

After the death of his father, he mentioned the thought of building one institute for harmony and development of charitable activities with holding a session and invitation of relatives, especially his sisters and brothers who agreed with him.

After that, founding board that paid their cash gifts announced their readiness in the frame of charitable purposes. They tried to establish sarvar institute that was registered in 1983 under the number of 1556 by the registry office of companies & non-commercial institutes.

Its activities were a source of different services after 20 years with help of God and work of organizers of sarvar’s institute. They constructed sarvar specialty polyclinic in square of Tanbacoochi and the building of the sub specialty medical center of sarvar’s children that has been founded in the place of Dr. sheikh hospital. That center was given to MUMS as one sub specialty educational & therapeutic center for children.

Sarvar institute is doing some charitable educational & hygienic projects now. The most important one is a project of building Akbar’s sub specialty hospital for children. It is hoped that it will be given to governmental sections after finishing related projects.

4. Sub specialty medical center of Sarvar’s children (Dr. sheikh hospital) at one look:

This center was established in 1996 in Taheri Street, in a land with area of 5638/25 m² with 7500 square meters in its buildings with the purpose of providing therapeutic specialist & sub specialist services for children.

The activities of sub specialty medical center of sarvar’s children (Dr. sheikh hospital)

This center includes specialty & sub specialty sections, pediatric surgery, pediatric intern sections, ICU, dialysis, hematology, neurology, nephrology, ecology, emergency ward, operation room. There are earing & pharynx clinics, urology, infections, blood, kidney, skin, psychiatrist, surgery, and surgery of nerves, nerve internal.

Para clinical facilitations of this center include laboratory of pathology, radiology, sonography, echocardiograph, electro encephalography. The pharmacy of hospital is working morning & afternoon sifts with the purpose of providing medicinal services to all flying & hospitalized patients. It’s noticeable that most patients who are treated in this center are patients affected to anemia, cancers, kidney disorder who needs dialysis, chemotherapy and has a convulsion, inborn abnormalities and need surgery.

Another center that is working under sub specialty medical center of Sarvar children is Sarvar Clinic located on Panjrah Street, in Mashhad. This center is serving patients with thalassanemia and hemophilia and is a therapeutic, educational, research center for special patients.

Hospital Services

There are seven sections in Dr. Sheikh’s hospital: surgery, internal, emergencies 1 & 2, ICU, hematology, dialysis and Para clinical units of pharmacy, laboratory, pathology, radiology, sonography, electroencephalography. Electroencephalography unit has started its activities since 2004.
Ghaem Educational, Research and Treatment Center

Mashhad University of Medical Sciences

Ghaem hospital is located in the North West of Imam Reza’s holy shrine and in the middle of Mashhad. It is built in an area of 20000 square meters; it has six stories and started to give services in 1971. It was completed in 1991.

**Emergency Sections**
- Include: Surgery, OB, ENT, Urology, Internal, Cardiac, Neuro Disease, Internal ICU and Surgery, CCU

**Clinics:**

**Wards Services are:**
- ICU, Dialysis, Dermatology, Open Heart, Kidney ICU, Thorax

**Para Clinics:**
- Bronchoscopy, Audiometry, Physiotherapy, Laboratories, CT Scan, Radiology, Sonography, Nuclear Medicine, Angiography, Radiotherapy, Endoscope, Echocardiography, Catherism, Bone Density, ECG, EMG, MRI
Montaserie educational, research and treatment center is located in the center of Mashhad. This new center has a building that is made by Astan Qods Razavi and has been donated to Mashhad University of Medical Sciences in December 2010. The building is very beautiful and has a land area of around 3,200 square meters. The center contains approximately 9200 square meters and has six floors.

Planning for the mobilization and utilization, is the responsibility of Mashhad University of Medical Sciences.

University officials have placed this issue with priority on its agenda. The mission of this center by senior officials has been determined in the field of organ transplantation and dialysis.

Hospital has been activated with comprehensive support and has been providing manpower efficiency. This center has been operating for less than a year.

Hemodialysis ward of the hospital has had admission beginning December 2011 and on February 19, 2011, first kidney transplant operation has been performed in this hospital.

The hospital is operating as a center for organ transplantation and dialysis and has an emergency department, specialty and subspecialty clinics, advanced laboratory needs of organ transplantation, imaging (radiology and ultrasound color Doppler) operation rooms, intensive care unit, central sterilization, Dialysis and peritoneal dialysis unit, hospital wards for nephrology and renal transplantation, liver transplantation and bone marrow transplantation for treatment services. During short-term acceptance of our compatriots in the center of activity, patients who need services from neighboring countries (Central Asia, Iraq) as well as native patients have been treated in this hospital.

kidney transplantation unit:

The center is located on the third floor of the building. This section includes six patient rooms (2 rooms with one bed, 1 room with two beds, 1 room with 3 beds and 2 rooms with four beds) and also a room for doctors, 2 staff rooms, two pantry (patients and staff), two warehouses storage Division and sheets), labor room and the room for dirty clothes. This unit has 15 beds.

Ward is ready to perform a kidney transplant at any time, day or night and Obviously, the necessary coordination for this is done with members of the transplant unit.

All elective surgery in this section will be done on Saturday, Sunday, Tuesday and Wednesday. Elective patients are admitted one day before surgery and patients after surgery are required to go to the ICU.

The Montaserie hospital liver transplant:

Liver transplant is Located on the third floor of the hospital as surgery 2 under Dr. Totooni supervision.
This section has 10 rooms which includes: Warehouse, staff room, pantry, dressing room, 4 patient rooms with 9 beds. Patients discharged from the ICU are closely supervised under experienced personnel with modern equipment in this department facilities. Each bed contains a central oxygen and suction system and nurse call system and monitoring system has been summoned to the nursing station and two-way communication between nurse and patient is established. Nursing work rooms are equipped with ECT devices, portable suction, emergency trawl, pulse oximetry, weight, ECG, and all necessary drugs. The section is equipped with washing room and dirty room for infection control. A resident Physician is available day and night for immediate remedial action.

**Bone marrow transplantation**
The bone marrow is located on the third floor of Montaserie Hospital through two automatic separate doors next to liver transplant section. This section starts with the air locked double doors where pantry for patients is located. After the second door, there are three isolated rooms, each room has comfort features like: refrigerator-TV-VCD- bathroom. In the entrance air filter is installed to prevent the entry of particles into the room and central air in the midst has HEPA filter. Wall paint is made of special colors and is washable. Glass windows are covered by a layer of Plexiglas and everything is washable inside the rooms. It contains three patient rooms - a room for the staff - chemotherapy room - Rest rooms. Nursing stations include: portable radiography machine - electrocardiogram machine - Portable suction - Monitors - Pulse Oxy meter - ventilator - Ect - infusion pumps - Chemotherapy Hood - Oxy hood and Shaker.

There are nursing call systems in nursing stations and work rooms and a hallway for quick access. Care system is a nurse with 2 patients and each crew has two nurses and one assistant nurse.

This section will have admission for Thalassemia patients - all types of leukemia - some types of anemia and immune deficiencies and ... and the

Montaserie Hospital has two main sections as follow:

**The peritoneal dialysis:**
Peritoneal Dialysis is located on the second floor of the hospital. One of the two rooms is for special training to the patients and the other room is for reception, counseling and basic educational need of the patient. In the early arrival of clients, there are different ways to get familiar with this type of dialysis like talking with the patient, showing educational films and meet with patients who have previously done peritoneal dialysis catheters are among the primary measures.

After the patient’s familiarity with peritoneal dialysis and how it is done, if the patient is willing to do this type of dialysis then will be referred to the vascular surgeon for Marking the catheter. They will come back for washing the mark catheter for peritoneal dialysis and the following care. This section after patient acceptance and after catheter mark will do the follow-up tests, correct Peritoneal dialysis and regular visits by the doctors.
Hemodialysis unit:
Hemodialysis unit was the first ward which started in 2011 at Montaserie hospital. This section is located on the second floor and consists of:
- Work room
- Dirty room
- Warehouse
- Personnel locker room
- Patients dressing room
- Patients dining room
- Bathrooms
- Chamber of transplant dialysis patients

This section includes 22 beds with most new world hemodialysis machine (Bellco, Fresenius 4008s). Human resources including 17 experienced nurses trained in cholera, 4 assistant nurses and 3 Health assistance and 1 Secretary who help patients in the morning, afternoon and night shifts, who are ready to help patients ready for kidney transplantation.

Montaserie Emergency Department
Emergency center in Montaserie Hospital is located on the west side of ground floor and includes:
- Physician room
- Resuscitation equipped with central oxygen and suction systems - bed restoration - the ECT - trawl CPR - pulse Oxy meter and oxygen, and its essentials: the nasal tube and face mask
- Exam rooms and equipment, including - examination beds - ophthalmoscope and...
- Ladies’ dressing room
- Men’ dressing room
- Toilets for personnel
- The hall consists of three beds and two beds equipped with central oxygen and suction ventilator - monitoring - pulse oximetry - electrocardiogram machine - portable suction - trawl CPR - wheelchair - glucometer with blood sugar control bar - partition - safety box - base balance and serum
- Nursing Station includes computer - printer - such as mobile communication system, the iphone and ringtones - refrigerators for storing medications - medications shelves - file papers to keep records
- Warehouse contains all the necessary drugs
- Used equipment room

Montaserie Hospital Laboratory
Montaserie hospital laboratory was set up in February 2011 by 4 expert laboratories, Pathologist and as a technical officer with the following goals:
- To obtain Patient satisfaction in clinic by providing quality services;
- To provide patients with quality tests as needed;
- Improve the quality of medical diagnosis and specific treatment of patients;
- Commissioning of specialized tests required by hospital doctors to improve clinical diagnosis;
- Using the latest equipment to improve quality of results;
- Cooperation in research projects.

500 square meters of laboratory space has been created for a medical diagnostic laboratory and pathology. This space has been provided with regard to the existing standards, attractive and pleasant environment for staff and our clients. Hospital laboratory contains blood bank laboratory, hematology, serology, microbiology, biochemistry, immunology and pathology. In these sectors offers several specialized tests in addition to routine laboratory services.
High qualified technical staff including experts in laboratory science and PhD are working. Several of these courses in their specialized fields have been completed to provide better services to our patients and to be more efficient. Dedicated in providing quality services, substantial investment has been made in laboratory equipment. In addition to good equipment and skilled labor, and kits of materials used is important. The most important criteria in selecting the lab kits in the laboratory, are their good quality. Towards this goal, some kits are purchased directly from overseas companies. Vacutainer system for sampling, tubes and other disposable equipment in the lab is a lot of help to improve quality. Quality Control Laboratory is one of the active segments. Standard quality control methods is done in the laboratory and test results are compared with each other between different sub laboratories in the laboratory.

**Radiology Department**

Technical head: Dr. Alamdari

Radiology machines - ultrasound machines

**Hours of Service:** Round the clock imaging services are given to our patients, which include plain and specific radiography. Staff while respecting the rights of patients try to provide quality radiology services. Useful and constructive feedback is appreciated by clients.

**The Radiologist services:**

1 - Evaluation of Radiological digestive system that includes:
- Barium swallow or X-ray powder barium sulfate is used to show the esophagus.
- Barium sulfate powder to show the esophagus - stomach - duodenum
- Transit (special x-ray of the small intestine)
- Barium enema or BE (specialized X-ray of the colon)

2 - Radiological review of administrative systems, including:
- IVP specialized radiography Kidney - ureter - bladder

3 - Macro geo-ray (radiograph specialized biliary system - Liver)

It is also the topic of ultrasound in addition to the superficial and deep soft tissue ultrasound all internal organs - gonads, thyroid and parathyroid. Also dedicated to all X-ray and ultrasound exam which is done under the supervision of specialist radiology.

Head of Department: Mr. Mustafa Qilich (Expert Radiology)

Radiology experts: Mr. Seyed Hossein Hedayati - Ms. Razia Afrouz - Ms. Marjan Nassiri

Radiology department is located one level below the ground floor. It includes an X-ray room and a dark room, the patient waiting room, ultrasound room, recovery room, patients, staff rest room and dressing room for patients, men and women.

The Equipment: The section is equipped with a fixed x-ray tube 500MA-Toshiba portable ultrasound machines.
# Research Centers

*Mashhad University of Medical Sciences*

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MUMS Biotechnology
Research Center

Biotechnology means any technological application that uses biological systems, living organisms, or derivatives thereof, to make or modify products or processes for specific use."

Before the 1970s, the term, biotechnology, was primarily used in the food processing and agriculture industries. Since the 1970s, it began to refer to laboratory-based techniques being developed in biological research, such as recombinant DNA or tissue culture-based processes. In fact, the term should be used in a much broader sense to describe the whole range of methods, both ancient and modern, used to manipulate organic matter to meet human needs. So the term can be defined as, “The application of indigenous and/or scientific knowledge to the management of (parts of) microorganisms, or of cells and tissues of higher organisms, so that these supply goods and services of use to human beings."

There has been a great deal of talk - and money - poured into biotechnology with the hope that miracle drugs will appear. While there do seem to be a small number of efficacious drugs, in general the biotech revolution has not happened in the pharmaceutical sector. However, recent progress with monoclonal antibody based drugs, biotech may finally have found a role in pharmaceutical sales.

Research Trends

- Evaluation of antimicrobial compounds from plants
- Methods of determination of antibiotic microbe pollution
- Synthesis of new compounds with pharmaceutical activity, including those regulating calcium channels, suppressed immune system users, protein kinase inhibitors as anti-cancer, anti-Leishmania agents and tuberculosis
- Designing and using molecular modeling softwares Gold, Mod, Dock
- Analysis of drugs and plant materials such as saffron by spectroscopy HPLC, UV-Visible
- Design and Synthesis of Poly Vector transfection activity of cationic and Intelligent Design Vector-based fusion proteins for use in gene update
- Effect of inflammation on the molecular mechanism of drug resistance in cancer
- Nucleotide polymorphisms in multiple genes for drug resistance (MDR) and CYP and their effect on the incidence of disease and drug kinetics pharmacogenetics
- Effects of antigen toxic products from natural materials
- Multiple drug resistance gene expression, Pgp function and effects of these pumps due to their pharmacokinetic
- Effect of natural factors with the plant origin on human tumor cell lines
- Cancer therapy using nano Partykal by target-seeking
- Development of vaccines against Leishmania using topical formulations liposomes
- Formulation and Drug update factor peptides and proteins
Mashhad University of Medical Sciences

Mission:
Mashhad University of Medical Sciences Cancer Research Center mission is to gain the latest scientific methods to intervene cancer while implementing basic research in epidemiology diagnosis biology and treatment of cancer as well as promotion of science and practice of all members. This center is trying to improve the quality of life for patients with cancer during and after treatment.

Goals:
- Building the database fields for diagnosis and treatment new and old cancer cases in Khorasan
- Pursue all available cases in the database for the response to treatment of cancer with obtaining biological samples and their storage
- Design and epidemiologic research projects, basic and clinical malignant disease on the fields of cancer in this region
- Cooperation between units, university and international with aim to promote scientific research projects
- Updating methods for diagnosis of pathology, clinical and cancer treatment
- Training researchers for cancer and recall for interested students in different levels
- Establishing database and scientific texts through the academic review about malignant diseases, through reference books, seminars and articles
- Updating experts in the field of cancer diseases through present paper, statistical report and monthly scientific conferences and media
- Attract resources from all possible sources inside and outside of the University
- Clinical services and consulting widely to maintain and improve the quality of life of patients during treatment and after
- Educating patients for their diseases and how to cope with early and late complications of treatment

Mashhad Cardiovascular Research Center
Mashhad University of Medical Sciences

Mission
- Planning for HSR research for the health of heart
- Organizing the research activities in determining the risk factors of cardio vascular diseases
- Determination and suggesting applicable and scientific ways for controlling chronic diseases, planning for potential available scientific resources in province for primary and secondary prevention for cardio vascular diseases
- Scientific research of new techniques for heart disease treatment
- Identification of risk factors and planning methods for prevention of heart disease in different groups of society (women, children, adult, etc…)
- Educating different groups of people through public media
- Public education of cardio vascular disease through academic centers
- Collaborating with centers for controlling heart disease (e.g. health centers, scientific committees, etc…)
- Involving students in cardio vascular researches
- Scientific collaboration with inside and outside scientific institutes
Welcome to Mashhad Dental Research Center (MDRC) website. This institute is comprised of trained scientists who are active members of Mashhad Dental School faculty. MDRC provides research home for Dental Faculty, undergraduate, and postgraduate students, with a unique opportunity to participate in significant clinical, multi-disciplinary and healthcare research projects. It also has close proximity and collaboration with Journal of Mashhad Dental School.

MDRC is an organized unit located in Mashhad Dental School and its mission is to study the basic mechanisms of oral and dental diseases and perform original research, which will improve the ability to understand, recognize and treat oral and facial disease. As part of its mission, Mashhad Dental Research Center also sponsors several annual educational activities and workshops for its members, the scientific community, and for graduate students in Mashhad. The members are committed to expanding basic and clinical research so as to extend the benefits of improved oral health to everyone. Its mission also includes:

- Introducing and strengthening this research center in province of Khorasan, Iran and worldwide
- Guiding, facilitating, regulating and administrating dental research projects
- Expanding the research institute subunits
- Priority setting based on needs of dental research
- Encouraging and enabling researchers
- Cooperating with industrial sites to meet their needs to gain their support for the research institute
- Periodical evaluation of the research center

Dental Material Research Center was established in 1992 due to the necessity of conducting research in the field of dental material and providing ways to improve methods of dental restorations. This unit is currently active on the second floor of dental school with an area of $80^2$ square meters.

Ear, Nose, Throat, Head & Neck Surgery Research Center
Mashhad University of Medical Sciences