From today's featured article

Bradley Cooper

Bradley Cooper (born 1975) is an American actor and filmmaker whose films have grossed $13 billion worldwide. After a guest role in Sex and the City, he made his film debut in the comedy Wet Hot American Summer (2001) and played Will Tippin in the television show Alias (2001–2006). He had his breakthrough in The Hangover (2009), which was followed by two sequels. Cooper found more success with Silver Linings Playbook (2012), American Hustle (2013), and American Sniper (2014), the last of which he int al\_so produced. Cooper wrote, produced, directed, and starred in A Star Is Born (2018). For his part in its soundtrack and its chart-topping lead single "Shallow", he won a BAFTA Award and two Grammys. Cooper continued his filmmaking with Joker (2019), Nightmare Alley (2021) and Maestro (2023), and also starred in the last two. He has received twelve Academy Award nominations. (This article is part of a featured topic: Bradley Cooper.)

2024/03/11,

Recently featured: Charles Richardson (Royal Navy officer)Weesperplein metro stationMary Jane Richardson Jones

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Did you know ...

Onekaka Dam under construction in the late 1920s

Onekaka Dam under construction in the late 1920s

... that the rebuilt Onekaka Power Station is controlled remotely using text messages via the cellular phone network?

... that Indian historian R. Champakalakshmi was a script consultant for Bharat Ek Khoj, a television series based on Jawaharlal Nehru's The Discovery of India?

... that Tom Landry led the Dallas Cowboys of the National Football League to a record 20 consecutive winning seasons?

... that Jack Biddle was the first and only person to be elected to the Alabama Legislature as a Democratic, Republican, and independent representative?

... that only 130 personnel joined the United States Army's Slavic Legion?

... that the 1973 Nobel Peace Prize is the only Nobel Peace Prize ever to have been declined?

... that the 1993 Pacific float var\_one hurricane season generated more than double the average number of major hurricanes, which have sustained winds of at least 111 mph (179 km/h)?

... that sports journalist Tim Burke specialized in capturing "offbeat" moments through GIFs?

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In the news

Swedish Prime Minister Ulf Kristersson and U.S. Secretary of State Antony Blinken

Swedish Prime Minister Ulf Kristersson and U.S. Secretary of State Antony Blinken

Sweden becomes the thirty-second member state of NATO (ratification ceremony pictured).

Japanese manga artist Akira Toriyama, author of Dragon Ball, dies at the age of 68.

The Haitian government declares a state of emergency after gangs storm two prisons and demand the resignation of Prime Minister Ariel Henry.

Following the general election, Shehbaz Sharif is appointed Prime Minister of Pakistan.

Ongoing: Israel–Hamas warMyanmar civil warRed Sea crisisRussian invasion of Ukraine timeline

Recent deaths: Chris MortensenJuli Lynne CharlotJames HedgesMohammed Al-SharekhJim BeardErling Folkvord

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On this day

March 11: Commonwealth Day in the Commonwealth of Nations (2024); National Heroes and Benefactors Day in Belize (2024); Longtaitou Festival in China (2024)

Dale Dyke Dam in Sheffield, after its rupture

Dale Dyke Dam in Sheffield, after its rupture

1864 – The Great Sheffield Flood killed at least 240 people and damaged more than 600 homes, after a crack in the Dale Dike Reservoir (pictured) caused it to fail.

1993 – The U.S. Senate unanimously confirmed Janet Reno as the country's first female attorney general.

2007 – Georgian authorities accused Russia of orchestrating a helicopter attack in the Kodori Valley of the breakaway territory of Abkhazia.

2009 – A teenage gunman engaged in a shooting spree at a secondary school in Winnenden, Germany, killing 16, including himself.

Mary of Woodstock (b. 1278)Stanisław Koniecpolski (d. 1646)Ralph Abernathy (b. 1926)Gladys Pearl Baker (d. 1984)

More anniversaries: March 10March 11March 12

ArchiveBy emailList of days of the year

From today's featured list

Peter Jackson

Peter Jackson

The 76th Academy Awards ceremony, presented by the Academy of Motion Picture Arts and Sciences (AMPAS), honored films released in 2003 and took place on February 29, 2004, at the Kodak Theatre in Hollywood, Los Angeles. During the ceremony, AMPAS presented Academy Awards in 24 categories. The ceremony, televised in the United States by ABC, was produced by Joe Roth and directed by Louis J. Horvitz. Actor Billy Crystal hosted the show for the eighth time. He first hosted the 62nd ceremony held in 1990, and had last hosted the 72nd ceremony in 2000. The Lord of the Rings: The Return of the King won a record-tying eleven awards including Best Picture and Best Director for Peter Jackson (pictured). The telecast garnered nearly 44 million viewers in the United States. (Full list...)

Recently featured: Roles and awards of Oscar IsaacAccolades received by The Batman (film)World Fantasy Award—Short Fiction

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For any version listed below, click on its date to view it. For more help, see Help:Page history and Help:Edit summary. (cur) = difference from current version, (prev) = difference from preceding version, m = minor edit, → = section edit, ← = automatic edit summary

(newest | oldest) View (newer 50 | older 50) (20 | 50 | 100 | 250 | 500)

7 March 2024

curprev 23:59, 7 March 2024‎ Firefangledfeathers talk contribs‎ 2,987 bytes −1‎ back to singular FP Tag: Manual revert

curprev 16:17, 7 March 2024‎ Firefangledfeathers talk contribs‎ 2,988 bytes +1‎ pictures plural just for today; suggested at WP:ERRORS by User:Novo Tape Tag: Reverted

12 December 2023

curprev 23:59, 12 December 2023‎ Firefangledfeathers talk contribs‎ 2,987 bytes −1‎ back to singular FA Tag: Manual revert

curprev 01:36, 12 December 2023‎ Schwede66 talk contribs‎ 2,988 bytes +1‎ today, we are featuring two FAs (use plural) Tag: Reverted

5 October 2022

curprev 19:27, 5 October 2022‎ The Blade of the Northern Lights talk contribs‎ 2,987 bytes 0‎ Same issue, commented out text accidentally got split into two lines of markup

4 October 2022

curprev 22:07, 4 October 2022‎ The Blade of the Northern Lights talk contribs‎ 2,987 bytes 0‎ Fix commented out text that for some reason was on a different line from the opening markup

2 September 2022

curprev 13:05, 2 September 2022‎ Xaosflux talk contribs‎ 2,987 bytes +23‎ +noinclude

26 August 2022

curprev 15:39, 26 August 2022‎ Xaosflux talk contribs‎ 2,964 bytes +48‎ reset the SHORTDESC Tag: Manual revert

curprev 15:38, 26 August 2022‎ Xaosflux talk contribs‎ 2,916 bytes −48‎ attempt to reset broken short dedesc Tag: Reverted

17 June 2022

curprev 15:25, 17 June 2022‎ Cyberpower678 talk contribs‎ 2,964 bytes +3‎ Undid revision 1093586636 by Cyberpower678 (talk) Whoops. Tested on the wrong page Tag: Undo

curprev 15:25, 17 June 2022‎ Cyberpower678 talk contribs‎ m 2,961 bytes −3‎ Reverted edits by Izno (talk) to last version by Xaosflux Tags: Rollback Reverted

14 June 2022

curprev 01:18, 14 June 2022‎ Izno talk contribs‎ 2,964 bytes +130‎ clear fix Tag: Reverted

12 June 2022

curprev 18:07, 12 June 2022‎ Izno talk contribs‎ 2,834 bytes −127‎ per Wikipedia:Village pump (proposals)#Make Main Page responsive by replacing tables Tag: Reverted

28 April 2022

curprev 21:25, 28 April 2022‎ Xaosflux talk contribs‎ 2,961 bytes −8‎ use direct call, don't need have to have that constantly evaluated here; and we don't really need to drag those categories in either

curprev 20:55, 28 April 2022‎ Stephen talk contribs‎ 2,969 bytes +12‎ Tweak SD, per Talk

curprev 19:22, 28 April 2022‎ Jayron32 talk contribs‎ 2,957 bytes +45‎ per T:MP discussion.

14 April 2022

curprev 23:51, 14 April 2022‎ Izno talk contribs‎ 2,912 bytes −8‎ of course i did

curprev 20:33, 14 April 2022‎ Izno talk contribs‎ 2,920 bytes −597‎ remove portals per Wikipedia:Village\_pump\_(proposals)#Proposal\_to\_change\_portal\_links\_on\_the\_Main\_Page

1 February 2022

curprev 19:01, 1 February 2022‎ Izno talk contribs‎ 3,517 bytes +9‎ add an h1 per User:stjn

3 February 2021

curprev 11:11, 3 February 2021‎ Izno talk contribs‎ 3,508 bytes +28‎ Undid revision 1004592788 by Izno (talk) rv that for now Tag: Undo

curprev 11:03, 3 February 2021‎ Izno talk contribs‎ 3,480 bytes −28‎ smh why was that there Tag: Reverted

10 November 2020

curprev 08:18, 10 November 2020‎ Izno talk contribs‎ 3,508 bytes −1,382‎ per MSGJ and a distinct lack of consensus. The main page even for admins is not the place for BOLD... Tag: Manual revert

curprev 02:32, 10 November 2020‎ John M Wolfson talk contribs‎ 4,890 bytes +10‎ POTD Tag: Reverted

curprev 00:46, 10 November 2020‎ John M Wolfson talk contribs‎ 4,880 bytes +6‎ Actual POTD link per talk Tag: Reverted

9 November 2020

curprev 22:39, 9 November 2020‎ John M Wolfson talk contribs‎ m 4,874 bytes 0‎ NBSPs in span per talk Tag: Reverted

curprev 22:11, 9 November 2020‎ John M Wolfson talk contribs‎ 4,874 bytes +1,366‎ Added "edit" links for sysops for each section; my skills are not sufficient to make them display on the right edge of the headers like I intended, and this is NOT tested on a mobile device Tags: Reverted nowiki added 11-03-2024, 3-11-2024

29 October 2020

curprev 11:51, 29 October 2020‎ Stephen talk contribs‎ 3,508 bytes +8‎ Arts moved to The arts

23 July 2020

curprev 12:44, 23 July 2020‎ The Blade of the Northern Lights talk contribs‎ 3,500 bytes +1‎ OK, there we go.

curprev 12:43, 23 July 2020‎ The Blade of the Northern Lights talk contribs‎ 3,499 bytes −1‎ Undid revision 969106878 by The Blade of the Northern Lights (talk) Tag: Undo

curprev 12:43, 23 July 2020‎ The Blade of the Northern Lights talk contribs‎ 3,500 bytes +1‎ Per request on my talkpage

30 June 2020

curprev 07:05, 30 June 2020‎ The Blade of the Northern Lights talk contribs‎ 3,499 bytes −2‎ Consistency; one pipe in this section had no spaces and one didn't

22 June 2020

curprev 13:37, 22 June 2020‎ Ianblair23 talk contribs‎ 3,501 bytes +13‎ link to Help:Introduction to Wikipedia per discussion

21 June 2020

curprev 22:52, 21 June 2020‎ The Blade of the Northern Lights talk contribs‎ 3,488 bytes −1‎ Rm stray space in markup

15 May 2020

curprev 19:17, 15 May 2020‎ Izno talk contribs‎ 3,489 bytes −456‎ push the rest of the non-responsive changes

curprev 14:26, 15 May 2020‎ Izno talk contribs‎ 3,945 bytes −2,002‎ move a bit more to css

curprev 01:06, 15 May 2020‎ Izno talk contribs‎ 5,947 bytes +1,420‎ nope Tag: Undo

curprev 01:06, 15 May 2020‎ Izno talk contribs‎ 4,527 bytes −1,420‎ h2s now

curprev 00:04, 15 May 2020‎ Izno talk contribs‎ 5,947 bytes −822‎ integrate first (easy) cut

12 May 2020

curprev 18:36, 12 May 2020‎ Izno talk contribs‎ 6,769 bytes +9‎ switch to mine

11 May 2020

curprev 06:06, 11 May 2020‎ QEDK talk contribs‎ 6,760 bytes +1‎ change src

curprev 05:48, 11 May 2020‎ QEDK talk contribs‎ 6,759 bytes +46‎ →‎From today's featured article: force-stack content for minerva (mobile view) users Tags: Mobile edit Mobile web edit Advanced mobile edit

19 April 2020

curprev 00:45, 19 April 2020‎ Ianblair23 talk contribs‎ 6,713 bytes −5‎ link to Help:Introduction

5 February 2020

curprev 23:40, 5 February 2020‎ Xaosflux talk contribs‎ 6,718 bytes +2,048‎ Revert responsive load in, testing has completed - a follow up discussion will soon be scheduled

curprev 00:03, 5 February 2020‎ Xaosflux talk contribs‎ 4,670 bytes −2,048‎ load in update from Wikipedia:Main page 2020.01 technical update

4 February 2020

curprev 00:37, 4 February 2020‎ Xaosflux talk contribs‎ 6,718 bytes +2,048‎ revert - did not work

curprev 00:35, 4 February 2020‎ Xaosflux talk contribs‎ 4,670 bytes −2,048‎ load in update from Wikipedia:Main page 2020.01 technical update

26 January 2020

curprev 14:07, 26 January 2020‎ Xaosflux talk contribs‎ 6,718 bytes 0‎ mf-banner => mp-banner, specialcasing main page is not pulling this in

25 January 2020

curprev 14:39, 25 January 2020‎ Xaosflux talk contribs‎ 6,718 bytes 0‎ use mf-banner

curprev 01:05, 25 January 2020‎ Xaosflux talk contribs‎ 6,718 bytes 0‎ Undid revision 937437869 by Xaosflux (talk) - undo, banner back to mp- from mf- Tag: Undo

curprev 01:02, 25 January 2020‎ Xaosflux talk contribs‎ 6,718 bytes 0‎ try mf-banner for Main Page banner

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Medicine

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From Wikipedia, the free encyclopedia

This article is about the science of healing. For medicaments, see Medication. For other uses, see Medicine (disambiguation).

"Medical" redirects here. "Medical" is also the common informal term for a medical examination, q.v.

Flag of World Health Organization featuring Rod of Asclepius, a common symbol for medicine and health care

Medicine is the science[1] and practice[2] of caring for a patient, managing the diagnosis, prognosis, prevention, treatment, palliation of their injury or disease, and promoting their health. Medicine encompasses a variety of health care practices evolved to maintain and restore health by the prevention and treatment of illness. Contemporary medicine applies biomedical sciences, biomedical research, genetics, and medical technology to diagnose, treat, and prevent injury and disease, typically through pharmaceuticals or surgery, but also through therapies as diverse as psychotherapy, external splints and traction, medical devices, biologics, and ionizing radiation, amongst others.[3]

Medicine has been practiced since prehistoric times, and for most of this time it was an art (an area of creativity and skill), frequently having connections to the religious and philosophical beliefs of local culture. For example, a medicine man would apply herbs and say prayers for healing, or an ancient philosopher and physician would apply bloodletting according to the theories of humorism. In recent centuries, since the advent of modern science, most medicine has become a combination of art and science (both basic and applied, under the umbrella of medical science). For example, while stitching technique for sutures is an art learned through practice, knowledge of what happens at the cellular and molecular level in the tissues being stitched arises through science.

Prescientific forms of medicine, now known as traditional medicine or folk medicine, remain commonly used in the absence of scientific medicine and are thus called alternative medicine. Alternative treatments outside of scientific medicine with ethical, safety and efficacy concerns are termed quackery.

Etymology

Medicine (UK: /ˈmɛdsɪn/ ⓘ, US: /ˈmɛdɪsɪn/ ⓘ) is the science and practice of the diagnosis, prognosis, treatment, and prevention of disease.[4][5] The word "medicine" is derived from Latin medicus, meaning "a physician".[6][7]

Clinical practice

Oil painting of medicine in the age of colonialism

The Doctor by Sir Luke Fildes (1891)

Elizabeth Blackwell, the first female physician in the United States graduated from SUNY Upstate (1847)

Medical availability and clinical practice vary across the world due to regional differences in culture and technology. Modern scientific medicine is highly developed in the Western world, while in developing countries such as parts of Africa or Asia, the population may rely more heavily on traditional medicine with limited evidence and efficacy and no required formal training for practitioners.[8]

In the developed world, evidence-based medicine is not universally used in clinical practice; for example, a 2007 survey of literature reviews found that about 49% of the interventions lacked sufficient evidence to support either benefit or harm.[9]

In modern clinical practice, physicians and physician assistants personally assess patients to diagnose, prognose, treat, and prevent disease using clinical judgment. The doctor-patient relationship typically begins with an interaction with an examination of the patient's medical history and medical record, followed by a medical interview[10] and a physical examination. Basic diagnostic medical devices (e.g., stethoscope, tongue depressor) are typically used. After examining for signs and interviewing for symptoms, the doctor may order medical tests (e.g., blood tests), take a biopsy, or prescribe pharmaceutical drugs or other therapies. Differential diagnosis methods help to rule out conditions based on the information provided. During the encounter, properly informing the patient of all relevant facts is an important part of the relationship and the development of trust. The medical encounter is then documented in the medical record, which is a legal document in many jurisdictions.[11] Follow-ups may be shorter but follow the same general procedure, and specialists follow a similar process. The diagnosis and treatment may take only a few minutes or a few weeks, depending on the complexity of the issue.

The components of the medical interview[10] and encounter are:

Chief complaint (CC): the reason for the current medical visit. These are the symptoms. They are in the patient's own words and are recorded along with the duration of each one. Also called chief concern or presenting complaint.

Current activity: occupation, hobbies, what the patient actually does.

Family history (FH): listing of diseases in the family that may impact the patient. A family tree is sometimes used.

History of present illness (HPI): the chronological order of events of symptoms and further clarification of each symptom. Distinguishable from history of previous illness, often called past medical history (PMH). Medical history comprises HPI and PMH.

Medications (Rx): what drugs the patient takes including prescribed, over-the-counter, and home remedies, as well as alternative and herbal medicines or remedies. Allergies are also recorded.

Past medical history (PMH/PMHx): concurrent medical problems, past hospitalizations and operations, injuries, past infectious diseases or vaccinations, history of known allergies.

Review of systems (ROS) or systems inquiry: a set of additional questions to ask, which may be missed on HPI: a general enquiry (have you noticed any weight loss, change in sleep quality, fevers, lumps and bumps? etc.), followed by questions on the body's main organ systems (heart, lungs, digestive tract, urinary tract, etc.).

Social history (SH): birthplace, residences, marital history, social and economic status, habits (including diet, medications, tobacco, alcohol).

The physical examination is the examination of the patient for medical signs of disease that are objective and observable, in contrast to symptoms that are volunteered by the patient and are not necessarily objectively observable.[12] The healthcare provider uses sight, hearing, touch, and sometimes smell (e.g., in infection, uremia, diabetic ketoacidosis). Four actions are the basis of physical examination: inspection, palpation (feel), percussion (tap to determine resonance characteristics), and auscultation (listen), generally in that order, although auscultation occurs prior to percussion and palpation for abdominal assessments.[13]

The clinical examination involves the study of:[14]

Abdomen and rectum

Cardiovascular (heart and blood vessels)

General appearance of the patient and specific indicators of disease (nutritional status, presence of jaundice, pallor or clubbing)

Genitalia (and pregnancy if the patient is or could be pregnant)

Head, eye, ear, nose, and throat (HEENT)[14]

Musculoskeletal (including spine and extremities)

Neurological (consciousness, awareness, brain, vision, cranial nerves, spinal cord and peripheral nerves)

Psychiatric (orientation, mental state, mood, evidence of abnormal perception or thought).

Respiratory (large airways and lungs)[14]

Skin

Vital signs including height, weight, body temperature, blood pressure, pulse, respiration rate, and hemoglobin oxygen saturation[14]

It is to likely focus on areas of interest highlighted in the medical history and may not include everything listed above.

The treatment plan may include ordering additional medical laboratory tests and medical imaging studies, starting therapy, referral to a specialist, or watchful observation. A follow-up may be advised. Depending upon the health insurance plan and the managed care system, various forms of "utilization review", such as prior authorization of tests, may place barriers on accessing expensive services.[15]

The medical decision-making (MDM) process includes the analysis and synthesis of all the above data to come up with a list of possible diagnoses (the differential diagnoses), along with an idea of what needs to be done to obtain a definitive diagnosis that would explain the patient's problem.

On subsequent visits, the process may be repeated in an abbreviated manner to obtain any new history, symptoms, physical findings, lab or imaging results, or specialist consultations.

Institutions

Color fresco of an ancient hospital setting

The Hospital of Santa Maria della Scala, fresco by Domenico di Bartolo, 1441–1442

Contemporary medicine is, in general, conducted within health care systems. Legal, credentialing, and financing frameworks are established by individual governments, augmented on occasion by international organizations, such as churches. The characteristics of any given health care system have a significant impact on the way medical care is provided.

From ancient times, Christian emphasis on practical charity gave rise to the development of systematic nursing and hospitals, and the Catholic Church today remains the largest non-government provider of medical services in the world.[16] Advanced industrial countries (with the exception of the United States)[17][18] and many developing countries provide medical services through a system of universal health care that aims to guarantee care for all through a single-payer health care system or compulsory private or cooperative health insurance. This is intended to ensure that the entire population has access to medical care on the basis of need rather than ability to pay. Delivery may be via private medical practices, state-owned hospitals and clinics, or charities, most commonly a combination of all three.

Most tribal societies provide no guarantee of healthcare for the population as a whole. In such societies, healthcare is available to those who can afford to pay for it, have self-insured it (either directly or as part of an employment contract), or may be covered by care financed directly by the government or tribe.

collection of glass bottles of different sizes

Modern drug ampoules

Transparency of information is another factor defining a delivery system. Access to information on conditions, treatments, quality, and pricing greatly affects the choice of patients/consumers and, therefore, the incentives of medical professionals. While the US healthcare system has come under fire for its lack of openness,[19] new legislation may encourage greater openness. There is a perceived tension between the need for transparency on the one hand and such issues as patient confidentiality and the possible exploitation of information for commercial gain on the other.

The health professionals who provide care in medicine comprise multiple professions, such as medics, nurses, physiotherapists, and psychologists. These professions will have their own ethical standards, professional education, and bodies. The medical profession has been conceptualized from a sociological perspective.[20]

Delivery

See also: Health care, clinic, hospital, and hospice

Provision of medical care is classified into primary, secondary, and tertiary care categories.[21]

photograph of three nurses

Nurses in Kokopo, East New Britain, Papua New Guinea

Primary care medical services are provided by physicians, physician assistants, nurse practitioners, or other health professionals who have first contact with a patient seeking medical treatment or care.[22] These occur in physician offices, clinics, nursing homes, schools, home visits, and other places close to patients. About 90% of medical visits can be treated by the primary care provider. These include treatment of acute and chronic illnesses, preventive care and health education for all ages and both sexes.

Secondary care medical services are provided by medical specialists in their offices or clinics or at local community hospitals for a patient referred by a primary care provider who first diagnosed or treated the patient.[23] Referrals are made for those patients who required the expertise or procedures performed by specialists. These include both ambulatory care and inpatient services, emergency departments, intensive care medicine, surgery services, physical therapy, labor and delivery, endoscopy units, diagnostic laboratory and medical imaging services, hospice centers, etc. Some primary care providers may also take care of hospitalized patients and deliver babies in a secondary care setting.

Tertiary care medical services are provided by specialist hospitals or regional centers equipped with diagnostic and treatment facilities not generally available at local hospitals. These include trauma centers, burn treatment centers, advanced neonatology unit services, organ transplants, high-risk pregnancy, radiation oncology, etc.

Modern medical care also depends on information – still delivered in many health care settings on paper records, but increasingly nowadays by electronic means.

In low-income countries, modern healthcare is often too expensive for the average person. International healthcare policy researchers have advocated that "user fees" be removed in these areas to ensure access, although even after removal, significant costs and barriers remain.[24]

Separation of prescribing and dispensing is a practice in medicine and pharmacy in which the physician who provides a medical prescription is independent from the pharmacist who provides the prescription drug. In the Western world there are centuries of tradition for separating pharmacists from physicians. In Asian countries, it is traditional for physicians to also provide drugs.[25]

Branches

Drawing by Marguerite Martyn (1918) of a visiting nurse in St. Louis, Missouri, with medicine and babies

Working together as an interdisciplinary team, many highly trained health professionals besides medical practitioners are involved in the delivery of modern health care. Examples include: nurses, emergency medical technicians and paramedics, laboratory scientists, pharmacists, podiatrists, physiotherapists, respiratory therapists, speech therapists, occupational therapists, radiographers, dietitians, and bioengineers, medical physicists, surgeons, surgeon's assistant, surgical technologist.

The scope and sciences underpinning human medicine overlap many other fields. A patient admitted to the hospital is usually under the care of a specific team based on their main presenting problem, e.g., the cardiology team, who then may interact with other specialties, e.g., surgical, radiology, to help diagnose or treat the main problem or any subsequent complications/developments.

Physicians have many specializations and subspecializations into certain branches of medicine, which are listed below. There are variations from country to country regarding which specialties certain subspecialties are in.

The main branches of medicine are:

Basic sciences of medicine; this is what every physician is educated in, and some return to in biomedical research.

Interdisciplinary fields, where different medical specialties are mixed to function in certain occasions.

Medical specialties

Basic sciences

Anatomy is the study of the physical structure of organisms. In contrast to macroscopic or gross anatomy, cytology and histology are concerned with microscopic structures.

Biochemistry is the study of the chemistry taking place in living organisms, especially the structure and function of their chemical components.

Biomechanics is the study of the structure and function of biological systems by means of the methods of Mechanics.

Biophysics is an interdisciplinary science that uses the methods of physics and physical chemistry to study biological systems.

Biostatistics is the application of statistics to biological fields in the broadest sense. A knowledge of biostatistics is essential in the planning, evaluation, and interpretation of medical research. It is also fundamental to epidemiology and evidence-based medicine.

Cytology is the microscopic study of individual cells.

Louis Pasteur, as portrayed in his laboratory, 1885 by Albert Edelfelt

Statue of Robert Koch in Berlin

Embryology is the study of the early development of organisms.

Endocrinology is the study of hormones and their effect throughout the body of animals.

Epidemiology is the study of the demographics of disease processes, and includes, but is not limited to, the study of epidemics.

Genetics is the study of genes, and their role in biological inheritance.

Gynecology is the study of female reproductive system.

Histology is the study of the structures of biological tissues by light microscopy, electron microscopy and immunohistochemistry.

Immunology is the study of the immune system, which includes the innate and adaptive immune system in humans, for example.

Lifestyle medicine is the study of the chronic conditions, and how to prevent, treat and reverse them.

Medical physics is the study of the applications of physics principles in medicine.

Microbiology is the study of microorganisms, including protozoa, bacteria, fungi, and viruses.

Molecular biology is the study of molecular underpinnings of the process of replication, transcription and translation of the genetic material.

Neuroscience includes those disciplines of science that are related to the study of the nervous system. A main focus of neuroscience is the biology and physiology of the human brain and spinal cord. Some related clinical specialties include neurology, neurosurgery and psychiatry.

Nutrition science (theoretical focus) and dietetics (practical focus) is the study of the relationship of food and drink to health and disease, especially in determining an optimal diet. Medical nutrition therapy is done by dietitians and is prescribed for diabetes, cardiovascular diseases, weight and eating disorders, allergies, malnutrition, and neoplastic diseases.

Pathology as a science is the study of disease – the causes, course, progression and resolution thereof.

Pharmacology is the study of drugs and their actions.

Photobiology is the study of the interactions between non-ionizing radiation and living organisms.

Physiology is the study of the normal functioning of the body and the underlying regulatory mechanisms.

Radiobiology is the study of the interactions between ionizing radiation and living organisms.

Toxicology is the study of hazardous effects of drugs and poisons.

Specialties

Main article: Medical specialty

Globe icon.

The examples and perspective in this section deal primarily with UK and do not represent a worldwide view of the subject. You may improve this section, discuss the issue on the talk page, or create a new section, as appropriate. (February 2023) (Learn how and when to remove this template message)

In the broadest meaning of "medicine", there are many different specialties. In the UK, most specialities have their own body or college, which has its own entrance examination. These are collectively known as the Royal Colleges, although not all currently use the term "Royal". The development of a speciality is often driven by new technology (such as the development of effective anaesthetics) or ways of working (such as emergency departments); the new specialty leads to the formation of a unifying body of doctors and the prestige of administering their own examination.

Within medical circles, specialities usually fit into one of two broad categories: "Medicine" and "Surgery". "Medicine" refers to the practice of non-operative medicine, and most of its subspecialties require preliminary training in Internal Medicine. In the UK, this was traditionally evidenced by passing the examination for the Membership of the Royal College of Physicians (MRCP) or the equivalent college in Scotland or Ireland. "Surgery" refers to the practice of operative medicine, and most subspecialties in this area require preliminary training in General Surgery, which in the UK leads to membership of the Royal College of Surgeons of England (MRCS). At present, some specialties of medicine do not fit easily into either of these categories, such as radiology, pathology, or anesthesia. Most of these have branched from one or other of the two camps above; for example anaesthesia developed first as a faculty of the Royal College of Surgeons (for which MRCS/FRCS would have been required) before becoming the Royal College of Anaesthetists and membership of the college is attained by sitting for the examination of the Fellowship of the Royal College of Anesthetists (FRCA).

Surgical specialty

Main article: Surgery

Surgeons in an operating room

Surgery is an ancient medical specialty that uses operative manual and instrumental techniques on a patient to investigate or treat a pathological condition such as disease or injury, to help improve bodily function or appearance or to repair unwanted ruptured areas (for example, a perforated ear drum). Surgeons must also manage pre-operative, post-operative, and potential surgical candidates on the hospital wards. In some centers, anesthesiology is part of the division of surgery (for historical and logistical reasons), although it is not a surgical discipline. Other medical specialties may employ surgical procedures, such as ophthalmology and dermatology, but are not considered surgical sub-specialties per se.

Surgical training in the U.S. requires a minimum of five years of residency after medical school. Sub-specialties of surgery often require seven or more years. In addition, fellowships can last an additional one to three years. Because post-residency fellowships can be competitive, many trainees devote two additional years to research. Thus in some cases surgical training will not finish until more than a decade after medical school. Furthermore, surgical training can be very difficult and time-consuming.

Surgical subspecialties include those a physician may specialize in after undergoing general surgery residency training as well as several surgical fields with separate residency training. Surgical subspecialties that one may pursue following general surgery residency training: [26]

Bariatric surgery

Cardiovascular surgery – may also be pursued through a separate cardiovascular surgery residency track

Colorectal surgery

Endocrine surgery

General surgery

Hand surgery

Hepatico-Pancreatico-Biliary Surgery

Minimally invasive surgery

Pediatric surgery

Plastic surgery – may also be pursued through a separate plastic surgery residency track

Surgical critical care

Surgical oncology

Transplant surgery

Trauma surgery

Vascular surgery – may also be pursued through a separate vascular surgery residency track

Other surgical specialties within medicine with their own individual residency training:

Dermatology

Neurosurgery

Ophthalmology

Oral and maxillofacial surgery

Orthopedic surgery

Otorhinolaryngology

Podiatric surgery – do not undergo medical school training, but rather separate training in podiatry school

Urology

Internal medicine specialty

Main article: Internal medicine

Internal medicine is the medical specialty dealing with the prevention, diagnosis, and treatment of adult diseases.[27] According to some sources, an emphasis on internal structures is implied.[28] In North America, specialists in internal medicine are commonly called "internists". Elsewhere, especially in Commonwealth nations, such specialists are often called physicians.[29] These terms, internist or physician (in the narrow sense, common outside North America), generally exclude practitioners of gynecology and obstetrics, pathology, psychiatry, and especially surgery and its subspecialities.

Because their patients are often seriously ill or require complex investigations, internists do much of their work in hospitals. Formerly, many internists were not subspecialized; such general physicians would see any complex nonsurgical problem; this style of practice has become much less common. In modern urban practice, most internists are subspecialists: that is, they generally limit their medical practice to problems of one organ system or to one particular area of medical knowledge. For example, gastroenterologists and nephrologists specialize respectively in diseases of the gut and the kidneys.[30]

In the Commonwealth of Nations and some other countries, specialist pediatricians and geriatricians are also described as specialist physicians (or internists) who have subspecialized by age of patient rather than by organ system. Elsewhere, especially in North America, general pediatrics is often a form of primary care.

There are many subspecialities (or subdisciplines) of internal medicine:

Angiology/Vascular Medicine

Bariatrics

Cardiology

Critical care medicine

Endocrinology

Gastroenterology

Geriatrics

Hematology

Hepatology

Infectious disease

Nephrology

Neurology

Oncology

Pediatrics

Pulmonology/Pneumology/Respirology/chest medicine

Rheumatology

Sports Medicine 11/3/2024, 2024-03-11,

Training in internal medicine (as opposed to surgical training), varies considerably across the world: see the articles on medical education for more details. In North America, it requires at least three years of residency training after medical school, which can then be followed by a one- to three-year fellowship in the subspecialties listed above. In general, resident work hours in medicine are less than those in surgery, averaging about 60 hours per week in the US. This difference does not apply in the UK where all doctors are now required by law to work less than 48 hours per week on average.

Diagnostic specialties

Clinical laboratory sciences are the clinical diagnostic services that apply laboratory techniques to diagnosis and management of patients. In the United States, these services are supervised by a pathologist. The personnel that work in these medical laboratory departments are technically trained staff who do not hold medical degrees, but who usually hold an undergraduate medical technology degree, who actually perform the tests, assays, and procedures needed for providing the specific services. Subspecialties include transfusion medicine, cellular pathology, clinical chemistry, hematology, clinical microbiology and clinical immunology.

Clinical neurophysiology is concerned with testing the physiology or function of the central and peripheral aspects of the nervous system. These kinds of tests can be divided into recordings of: (1) spontaneous or continuously running electrical activity, or (2) stimulus evoked responses. Subspecialties include electroencephalography, electromyography, evoked potential, nerve conduction study and polysomnography. Sometimes these tests are performed by techs without a medical degree, but the interpretation of these tests is done by a medical professional.

Diagnostic radiology is concerned with imaging of the body, e.g. by x-rays, x-ray computed tomography, ultrasonography, and nuclear magnetic resonance tomography. Interventional radiologists can access areas in the body under imaging for an intervention or diagnostic sampling.

Nuclear medicine is concerned with studying human organ systems by administering radiolabelled substances (radiopharmaceuticals) to the body, which can then be imaged outside the body by a gamma camera or a PET scanner. Each radiopharmaceutical consists of two parts: a tracer that is specific for the function under study (e.g., neurotransmitter pathway, metabolic pathway, blood flow, or other), and a radionuclide (usually either a gamma-emitter or a positron emitter). There is a degree of overlap between nuclear medicine and radiology, as evidenced by the emergence of combined devices such as the PET/CT scanner.

Pathology as a medical specialty is the branch of medicine that deals with the study of diseases and the morphologic, physiologic changes produced by them. As a diagnostic specialty, pathology can be considered the basis of modern scientific medical knowledge and plays a large role in evidence-based medicine. Many modern molecular tests such as flow cytometry, polymerase chain reaction (PCR), immunohistochemistry, cytogenetics, gene rearrangements studies and fluorescent in situ hybridization (FISH) fall within the territory of pathology.

Other major specialties

The following are some major medical specialties that do not directly fit into any of the above-mentioned groups:

Anesthesiology (also known as anaesthetics): concerned with the perioperative management of the surgical patient. The anesthesiologist's role during surgery is to prevent derangement in the vital organs' (i.e. brain, heart, kidneys) functions and postoperative pain. Outside of the operating room, the anesthesiology physician also serves the same function in the labor and delivery ward, and some are specialized in critical medicine.

Emergency medicine is concerned with the diagnosis and treatment of acute or life-threatening conditions, including trauma, surgical, medical, pediatric, and psychiatric emergencies.

Family medicine, family practice, general practice or primary care is, in many countries, the first port-of-call for patients with non-emergency medical problems. Family physicians often provide services across a broad range of settings including office based practices, emergency department coverage, inpatient care, and nursing home care.

Gynecologist Michel Akotionga of Ouagadougou, Burkina Faso

Medical genetics is concerned with the diagnosis and management of hereditary disorders.

Neurology is concerned with diseases of the nervous system. In the UK, neurology is a subspecialty of general medicine.

Obstetrics and gynecology (often abbreviated as OB/GYN (American English) or Obs & Gynae (British English)) are concerned respectively with childbirth and the female reproductive and associated organs. Reproductive medicine and fertility medicine are generally practiced by gynecological specialists.

Pediatrics (AE) or paediatrics (BE) is devoted to the care of infants, children, and adolescents. Like internal medicine, there are many pediatric subspecialties for specific age ranges, organ systems, disease classes, and sites of care delivery.

Pharmaceutical medicine is the medical scientific discipline concerned with the discovery, development, evaluation, registration, monitoring and medical aspects of marketing of medicines for the benefit of patients and public health.

Physical medicine and rehabilitation (or physiatry) is concerned with functional improvement after injury, illness, or congenital disorders.

Podiatric medicine is the study of, diagnosis, and medical & surgical treatment of disorders of the foot, ankle, lower limb, hip and lower back.

Preventive medicine is the branch of medicine concerned with preventing disease.

Community health or public health is an aspect of health services concerned with threats to the overall health of a community based on population health analysis.

Psychiatry is the branch of medicine concerned with the bio-psycho-social study of the etiology, diagnosis, treatment and prevention of cognitive, perceptual, emotional and behavioral disorders. Related fields include psychotherapy and clinical psychology.

Interdisciplinary fields

Some interdisciplinary sub-specialties of medicine include:

Addiction medicine deals with the treatment of addiction.

Aerospace medicine deals with medical problems related to flying and space travel.

Biomedical Engineering is a field dealing with the application of engineering principles to medical practice.

Clinical pharmacology is concerned with how systems of therapeutics interact with patients.

Conservation medicine studies the relationship between human and non-human animal health, and environmental conditions. Also known as ecological medicine, environmental medicine, or medical geology.

Disaster medicine deals with medical aspects of emergency preparedness, disaster mitigation and management.

Diving medicine (or hyperbaric medicine) is the prevention and treatment of diving-related problems.

Evolutionary medicine is a perspective on medicine derived through applying evolutionary theory.

Forensic medicine deals with medical questions in legal context, such as determination of the time and cause of death, type of weapon used to inflict trauma, reconstruction of the facial features using remains of deceased (skull) thus aiding identification.

Gender-based medicine studies the biological and physiological differences between the human sexes and how that affects differences in disease.

Health informatics is a relatively recent field that deal with the application of computers and information technology to medicine.

Hospice and Palliative Medicine is a relatively modern branch of clinical medicine that deals with pain and symptom relief and emotional support in patients with terminal illnesses including cancer and heart failure.

Hospital medicine is the general medical care of hospitalized patients. Physicians whose primary professional focus is hospital medicine are called hospitalists in the United States and Canada. The term Most Responsible Physician (MRP) or attending physician is also used interchangeably to describe this role.

Laser medicine involves the use of lasers in the diagnostics or treatment of various conditions.

Many other health science fields, e.g. dietetics

Medical ethics deals with ethical and moral principles that apply values and judgments to the practice of medicine.

Medical humanities includes the humanities (literature, philosophy, ethics, history and religion), social science (anthropology, cultural studies, psychology, sociology), and the arts (literature, theater, film, and visual arts) and their application to medical education and practice.

Nosokinetics is the science/subject of measuring and modelling the process of care in health and social care systems.

Nosology is the classification of diseases for various purposes.

Occupational medicine is the provision of health advice to organizations and individuals to ensure that the highest standards of health and safety at work can be achieved and maintained.

Pain management (also called pain medicine, or algiatry) is the medical discipline concerned with the relief of pain.

Pharmacogenomics is a form of individualized medicine.

Podiatric medicine is the study of, diagnosis, and medical treatment of disorders of the foot, ankle, lower limb, hip and lower back.

Sexual medicine is concerned with diagnosing, assessing and treating all disorders related to sexuality.

Sports medicine deals with the treatment and prevention and rehabilitation of sports/exercise injuries such as muscle spasms, muscle tears, injuries to ligaments (ligament tears or ruptures) and their repair in athletes, amateur and professional.

Therapeutics is the field, more commonly referenced in earlier periods of history, of the various remedies that can be used to treat disease and promote health.[31]

Travel medicine or emporiatrics deals with health problems of international travelers or travelers across highly different environments.

Tropical medicine deals with the prevention and treatment of tropical diseases. It is studied separately in temperate climates where those diseases are quite unfamiliar to medical practitioners and their local clinical needs.

Urgent care focuses on delivery of unscheduled, walk-in care outside of the hospital emergency department for injuries and illnesses that are not severe enough to require care in an emergency department. In some jurisdictions this function is combined with the emergency department.

Veterinary medicine; veterinarians apply similar techniques as physicians to the care of non-human animals.

Wilderness medicine entails the practice of medicine in the wild, where conventional medical facilities may not be available.

Education and legal controls

Main articles: Medical education and Medical license

Medical students learning about stitches

Medical education and training varies around the world. It typically involves entry level education at a university medical school, followed by a period of supervised practice or internship, or residency. This can be followed by postgraduate vocational training. A variety of teaching methods have been employed in medical education, still itself a focus of active research. In Canada and the United States of America, a Doctor of Medicine degree, often abbreviated M.D., or a Doctor of Osteopathic Medicine degree, often abbreviated as D.O. and unique to the United States, must be completed in and delivered from a recognized university.

Since knowledge, techniques, and medical technology continue to evolve at a rapid rate, many regulatory authorities require continuing medical education. Medical practitioners upgrade their knowledge in various ways, including medical journals, seminars, conferences, and online programs. A database of objectives covering medical knowledge, as suggested by national societies across the United States, can be searched at http://data.medobjectives.marian.edu/ Archived 4 October 2018 at the Wayback Machine.[32]

Headquarters of the Organización Médica Colegial de España, which regulates the medical profession in Spain

In most countries, it is a legal requirement for a medical doctor to be licensed or registered. In general, this entails a medical degree from a university and accreditation by a medical board or an equivalent national organization, which may ask the applicant to pass exams. This restricts the considerable legal authority of the medical profession to physicians that are trained and qualified by national standards. It is also intended as an assurance to patients and as a safeguard against charlatans that practice inadequate medicine for personal gain. While the laws generally require medical doctors to be trained in "evidence based", Western, or Hippocratic Medicine, they are not intended to discourage different paradigms of health.

In the European Union, the profession of doctor of medicine is regulated. A profession is said to be regulated when access and exercise is subject to the possession of a specific professional qualification. The regulated professions database contains a list of regulated professions for doctor of medicine in the EU member states, EEA countries and Switzerland. This list is covered by the Directive 2005/36/EC.

Doctors who are negligent or intentionally harmful in their care of patients can face charges of medical malpractice and be subject to civil, criminal, or professional sanctions.

Medical ethics

Main article: Medical ethics

A 12th-century Byzantine manuscript of the Hippocratic Oath

Medical ethics is a system of moral principles that apply values and judgments to the practice of medicine. As a scholarly discipline, medical ethics encompasses its practical application in clinical settings as well as work on its history, philosophy, theology, and sociology. Six of the values that commonly apply to medical ethics discussions are:

autonomy – the patient has the right to refuse or choose their treatment. (Latin: Voluntas aegroti suprema lex.)

beneficence – a practitioner should act in the best interest of the patient. (Latin: Salus aegroti suprema lex.)

justice – concerns the distribution of scarce health resources, and the decision of who gets what treatment (fairness and equality).

non-maleficence – "first, do no harm" (Latin: primum non-nocere).

respect for persons – the patient (and the person treating the patient) have the right to be treated with dignity.

truthfulness and honesty – the concept of informed consent has increased in importance since the historical events of the Doctors' Trial of the Nuremberg trials, Tuskegee syphilis experiment, and others.

Values such as these do not give answers as to how to handle a particular situation, but provide a useful framework for understanding conflicts. When moral values are in conflict, the result may be an ethical dilemma or crisis. Sometimes, no good solution to a dilemma in medical ethics exists, and occasionally, the values of the medical community (i.e., the hospital and its staff) conflict with the values of the individual patient, family, or larger non-medical community. Conflicts can also arise between health care providers, or among family members. For example, some argue that the principles of autonomy and beneficence clash when patients refuse blood transfusions, considering them life-saving; and truth-telling was not emphasized to a large extent before the HIV era.

History

Main article: History of medicine

For a chronological guide, see Timeline of medicine and medical technology.

Statuette of ancient Egyptian physician Imhotep, the first physician from antiquity known by name

Ancient world

Prehistoric medicine incorporated plants (herbalism), animal parts, and minerals. In many cases these materials were used ritually as magical substances by priests, shamans, or medicine men. Well-known spiritual systems include animism (the notion of inanimate objects having spirits), spiritualism (an appeal to gods or communion with ancestor spirits); shamanism (the vesting of an individual with mystic powers); and divination (magically obtaining the truth). The field of medical anthropology examines the ways in which culture and society are organized around or impacted by issues of health, health care and related issues.

The earliest known medical texts in the world were found in the ancient Syrian city of Ebla and date back to 2500 BCE.[33][34][35] Other early records on medicine have been discovered from ancient Egyptian medicine, Babylonian Medicine, Ayurvedic medicine (in the Indian subcontinent), classical Chinese medicine (predecessor to the modern traditional Chinese medicine), and ancient Greek medicine and Roman medicine.

In Egypt, Imhotep (3rd millennium BCE) is the first physician in history known by name. The oldest Egyptian medical text is the Kahun Gynaecological Papyrus from around 2000 BCE, which describes gynaecological diseases. The Edwin Smith Papyrus dating back to 1600 BCE is an early work on surgery, while the Ebers Papyrus dating back to 1500 BCE is akin to a textbook on medicine.[36]

In China, archaeological evidence of medicine in Chinese dates back to the Bronze Age Shang Dynasty, based on seeds for herbalism and tools presumed to have been used for surgery.[37] The Huangdi Neijing, the progenitor of Chinese medicine, is a medical text written beginning in the 2nd century BCE and compiled in the 3rd century.[38]

In India, the surgeon Sushruta described numerous surgical operations, including the earliest forms of plastic surgery.[39][dubious – discuss][40] Earliest records of dedicated hospitals come from Mihintale in Sri Lanka where evidence of dedicated medicinal treatment facilities for patients are found.[41][42]

Mosaic on the floor of the Asclepieion of Kos, depicting Hippocrates, with Asklepius in the middle (2nd–3rd century)

In Greece, the ancient Greek physician Hippocrates, the "father of modern medicine",[43][44] laid the foundation for a rational approach to medicine. Hippocrates introduced the Hippocratic Oath for physicians, which is still relevant and in use today, and was the first to categorize illnesses as acute, chronic, endemic and epidemic, and use terms such as, "exacerbation, relapse, resolution, crisis, paroxysm, peak, and convalescence".[45][46] The Greek physician Galen was also one of the greatest surgeons of the ancient world and performed many audacious operations, including brain and eye surgeries. After the fall of the Western Roman Empire and the onset of the Early Middle Ages, the Greek tradition of medicine went into decline in Western Europe, although it continued uninterrupted in the Eastern Roman (Byzantine) Empire.

Most of our knowledge of ancient Hebrew medicine during the 1st millennium BC comes from the Torah, i.e. the Five Books of Moses, which contain various health related laws and rituals. The Hebrew contribution to the development of modern medicine started in the Byzantine Era, with the physician Asaph the Jew.[47]

Middle Ages

A manuscript of Al-Risalah al-Dhahabiah by Ali al-Ridha, the eighth Imam of Shia Muslims. The text says: "Golden dissertation in medicine which is sent by Imam Ali ibn Musa al-Ridha, peace be upon him, to al-Ma'mun."

The concept of hospital as institution to offer medical care and possibility of a cure for the patients due to the ideals of Christian charity, rather than just merely a place to die, appeared in the Byzantine Empire.[48]

Although the concept of uroscopy was known to Galen, he did not see the importance of using it to localize the disease. It was under the Byzantines with physicians such of Theophilus Protospatharius that they realized the potential in uroscopy to determine disease in a time when no microscope or stethoscope existed. That practice eventually spread to the rest of Europe.[49]

After 750 CE, the Muslim world had the works of Hippocrates, Galen and Sushruta translated into Arabic, and Islamic physicians engaged in some significant medical research. Notable Islamic medical pioneers include the Persian polymath, Avicenna, who, along with Imhotep and Hippocrates, has also been called the "father of medicine".[50] He wrote The Canon of Medicine which became a standard medical text at many medieval European universities,[51] considered one of the most famous books in the history of medicine.[52] Others include Abulcasis,[53] Avenzoar,[54] Ibn al-Nafis,[55] and Averroes.[56] Persian physician Rhazes[57] was one of the first to question the Greek theory of humorism, which nevertheless remained influential in both medieval Western and medieval Islamic medicine.[58] Some volumes of Rhazes's work Al-Mansuri, namely "On Surgery" and "A General Book on Therapy", became part of the medical curriculum in European universities.[59] Additionally, he has been described as a doctor's doctor,[60] the father of pediatrics,[57][61] and a pioneer of ophthalmology. For example, he was the first to recognize the reaction of the eye's pupil to light.[61] The Persian Bimaristan hospitals were an early example of public hospitals.[62][63]

In Europe, Charlemagne decreed that a hospital should be attached to each cathedral and monastery and the historian Geoffrey Blainey likened the activities of the Catholic Church in health care during the Middle Ages to an early version of a welfare state: "It conducted hospitals for the old and orphanages for the young; hospices for the sick of all ages; places for the lepers; and hostels or inns where pilgrims could buy a cheap bed and meal". It supplied food to the population during famine and distributed food to the poor. This welfare system the church funded through collecting taxes on a large scale and possessing large farmlands and estates. The Benedictine order was noted for setting up hospitals and infirmaries in their monasteries, growing medical herbs and becoming the chief medical care givers of their districts, as at the great Abbey of Cluny. The Church also established a network of cathedral schools and universities where medicine was studied. The Schola Medica Salernitana in Salerno, looking to the learning of Greek and Arab physicians, grew to be the finest medical school in Medieval Europe.[64]

Siena's Santa Maria della Scala Hospital, one of Europe's oldest hospitals. During the Middle Ages, the Catholic Church established universities to revive the study of sciences, drawing on the learning of Greek and Arab physicians in the study of medicine.

However, the fourteenth and fifteenth century Black Death devastated both the Middle East and Europe, and it has even been argued that Western Europe was generally more effective in recovering from the pandemic than the Middle East.[65] In the early modern period, important early figures in medicine and anatomy emerged in Europe, including Gabriele Falloppio and William Harvey.

The major shift in medical thinking was the gradual rejection, especially during the Black Death in the 14th and 15th centuries, of what may be called the "traditional authority" approach to science and medicine. This was the notion that because some prominent person in the past said something must be so, then that was the way it was, and anything one observed to the contrary was an anomaly (which was paralleled by a similar shift in European society in general – see Copernicus's rejection of Ptolemy's theories on astronomy). Physicians like Vesalius improved upon or disproved some of the theories from the past. The main tomes used both by medicine students and expert physicians were Materia Medica and Pharmacopoeia.

Andreas Vesalius was the author of De humani corporis fabrica, an important book on human anatomy.[66] Bacteria and microorganisms were first observed with a microscope by Antonie van Leeuwenhoek in 1676, initiating the scientific field microbiology.[67] Independently from Ibn al-Nafis, Michael Servetus rediscovered the pulmonary circulation, but this discovery did not reach the public because it was written down for the first time in the "Manuscript of Paris"[68] in 1546, and later published in the theological work for which he paid with his life in 1553. Later this was described by Renaldus Columbus and Andrea Cesalpino. Herman Boerhaave is sometimes referred to as a "father of physiology" due to his exemplary teaching in Leiden and textbook 'Institutiones medicae' (1708). Pierre Fauchard has been called "the father of modern dentistry".[69]

Modern

Paul-Louis Simond injecting a plague vaccine in Karachi, 1898

Veterinary medicine was, for the first time, truly separated from human medicine in 1761, when the French veterinarian Claude Bourgelat founded the world's first veterinary school in Lyon, France. Before this, medical doctors treated both humans and other animals.

Modern scientific biomedical research (where results are testable and reproducible) began to replace early Western traditions based on herbalism, the Greek "four humours" and other such pre-modern notions. The modern era really began with Edward Jenner's discovery of the smallpox vaccine at the end of the 18th century (inspired by the method of variolation originated in ancient China),[70] Robert Koch's discoveries around 1880 of the transmission of disease by bacteria, and then the discovery of antibiotics around 1900.

The post-18th century modernity period brought more groundbreaking researchers from Europe. From Germany and Austria, doctors Rudolf Virchow, Wilhelm Conrad Röntgen, Karl Landsteiner and Otto Loewi made notable contributions. In the United Kingdom, Alexander Fleming, Joseph Lister, Francis Crick and Florence Nightingale are considered important. Spanish doctor Santiago Ramón y Cajal is considered the father of modern neuroscience.

From New Zealand and Australia came Maurice Wilkins, Howard Florey, and Frank Macfarlane Burnet.

Others that did significant work include William Williams Keen, William Coley, James D. Watson (United States); Salvador Luria (Italy); Alexandre Yersin (Switzerland); Kitasato Shibasaburō (Japan); Jean-Martin Charcot, Claude Bernard, Paul Broca (France); Adolfo Lutz (Brazil); Nikolai Korotkov (Russia); Sir William Osler (Canada); and Harvey Cushing (United States).

As science and technology developed, medicine became more reliant upon medications. Throughout history and in Europe right until the late 18th century, not only plant products were used as medicine, but also animal (including human) body parts and fluids.[71] Pharmacology developed in part from herbalism and some drugs are still derived from plants (atropine, ephedrine, warfarin, aspirin, digoxin, vinca alkaloids,[72] taxol, hyoscine, etc.).[73] Vaccines were discovered by Edward Jenner and Louis Pasteur.

The first antibiotic was arsphenamine (Salvarsan) discovered by Paul Ehrlich in 1908 after he observed that bacteria took up toxic dyes that human cells did not. The first major class of antibiotics was the sulfa drugs, derived by German chemists originally from azo dyes.

Packaging of cardiac medicine at the Star pharmaceutical factory in Tampere, Finland in 1953

Pharmacology has become increasingly sophisticated; modern biotechnology allows drugs targeted towards specific physiological processes to be developed, sometimes designed for compatibility with the body to reduce side-effects. Genomics and knowledge of human genetics and human evolution is having increasingly significant influence on medicine, as the causative genes of most monogenic genetic disorders have now been identified, and the development of techniques in molecular biology, evolution, and genetics are influencing medical technology, practice and decision-making.

Evidence-based medicine is a contemporary movement to establish the most effective algorithms of practice (ways of doing things) through the use of systematic reviews and meta-analysis. The movement is facilitated by modern global information science, which allows as much of the available evidence as possible to be collected and analyzed according to standard protocols that are then disseminated to healthcare providers. The Cochrane Collaboration leads this movement. A 2001 review of 160 Cochrane systematic reviews revealed that, according to two readers, 21.3% of the reviews concluded insufficient evidence, 20% concluded evidence of no effect, and 22.5% concluded positive effect.[74]

Quality, efficiency, and access

Evidence-based medicine, prevention of medical error (and other "iatrogenesis"), and avoidance of unnecessary health care are a priority in modern medical systems. These topics generate significant political and public policy attention, particularly in the United States where healthcare is regarded as excessively costly but population health metrics lag similar nations.[75]

Globally, many developing countries lack access to care and access to medicines.[76] As of 2015, most wealthy developed countries provide health care to all citizens, with a few exceptions such as the United States where lack of health insurance coverage may limit access.[77]

See also

icon Medicine portal

Medicine

at Wikipedia's sister projects

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Quotations from Wikiquote

Texts from Wikisource

Textbooks from Wikibooks

Resources from Wikiversity

Further information: Outline of medicine, Outline of health, and Glossary of medicine

Alternative medicine – Form of non-scientific healing

List of causes of death by rate

List of disorders

List of important publications in medicine

Lists of diseases

Medical aid – Type of insurance

Medical billing – Part of the US health system's reimbursement process

Medical classification – Use of schemes of standardized codes

Medical encyclopedia – Written compendium about diseases

Medical equipment – Device to be used for medical purposes

Medical ethics – System of moral principles of the practice of medicine

Medical literature – Scientific literature of medicine

Medical malpractice – Legal cause of action when health professionals deviate from standards of practice harming a patient

Medical psychology – Application of psychological principles to the practice of medicine

Medical sociology – Branch of sociology

Philosophy of healthcare

Quackery – Promotion of fraudulent or ignorant medical practices

Traditional medicine – Formalized folk medicine

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Sport

Article

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Read

View source

View history

Tools

Page semi-protected

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Sport in childhood. Association football, shown above, is a team sport which also provides opportunities to nurture physical fitness and social interaction skills.

The 2005 London Marathon: running races, in their various specialties, represent the oldest and most traditional form of sport.

Sport pertains to any form of physical activity or game,[1] often competitive and organized, that aims to use, maintain, or improve physical ability and skills while providing enjoyment to participants and, in some cases, entertainment to spectators.[2] Sports can, through casual or organized participation, improve participants' physical health. Hundreds of sports exist, from those between single contestants, through to those with hundreds of simultaneous participants, either in teams or competing as individuals. In certain sports such as racing, many contestants may compete, simultaneously or consecutively, with one winner; in others, the contest (a match) is between two sides, each attempting to exceed the other. Some sports allow a "tie" or "draw", in which there is no single winner; others provide tie-breaking methods to ensure one winner. A number of contests may be arranged in a tournament producing a champion. Many sports leagues make an annual champion by arranging games in a regular sports season, followed in some cases by playoffs.

Sport is generally recognised as system of activities based in physical athleticism or physical dexterity, with major competitions such as the Olympic Games admitting only sports meeting this definition.[3] Other organisations, such as the Council of Europe, preclude activities without a physical element from classification as sports.[2] However, a number of competitive, but non-physical, activities claim recognition as mind sports. The International Olympic Committee (through ARISF) recognises both chess and bridge as bona fide sports, and SportAccord, the international sports federation association, recognises five non-physical sports: bridge, chess, draughts (checkers), Go and xiangqi,[4][5] and limits the number of mind games which can be admitted as sports.[1]

Sport is usually governed by a set of rules or customs, which serve to ensure fair competition, and allow consistent adjudication of the winner. Winning can be determined by physical events such as scoring goals or crossing a line first. It can also be determined by judges who are scoring elements of the sporting performance, including objective or subjective measures such as technical performance or artistic impression.

Records of performance are often kept, and for popular sports, this information may be widely announced or reported in sport news. Sport is also a major source of entertainment for non-participants, with spectator sport drawing large crowds to sport venues, and reaching wider audiences through broadcasting. Sport betting is in some cases severely regulated, and in some cases is central to the sport.

According to A.T. Kearney, a consultancy, the global sporting industry is worth up to $620 billion as of 2013.[6] The world's most accessible and practised sport is running, while association football is the most popular spectator sport.[7]

Meaning and usage

Etymology

The word "sport" comes from the Old French desport meaning "leisure", with the oldest definition in English from around 1300 being "anything humans find amusing or entertaining".[8]

Other meanings include gambling and events staged for the purpose of gambling; hunting; and games and diversions, including ones that require exercise.[9] Roget's defines the noun sport as an "activity engaged in for relaxation and amusement" with synonyms including diversion and recreation.[10]

Nomenclature

The singular term "sport" is used in most English dialects to describe the overall concept (e.g. "children taking part in sport"), with "sports" used to describe multiple activities (e.g. "football and rugby are the most popular sports in England"). American English uses "sports" for both terms.[citation needed]

Definition

See also: Game § Definitions

The International Olympic Committee recognises some board games as sports, including chess.

Show jumping, an equestrian sport

The precise definition of what differentiates a sport from other leisure activities varies between sources. The closest to an international agreement on a definition is provided by the Global Association of International Sports Federations (GAISF), which is the association for all the largest international sports federations (including association football, athletics, cycling, tennis, equestrian sports, and more), and is therefore the de facto representative of international sport.

GAISF uses the following criteria, determining that a sport should:[1]

have an element of competition

be in no way harmful to any living creature

not rely on equipment provided by a single supplier (excluding proprietary games such as arena football)

not rely on any "luck" element specifically designed into the sport.

They also recognise that sport can be primarily physical (such as rugby or athletics), primarily mind (such as chess or Go), predominantly motorised (such as Formula 1 or powerboating), primarily co-ordination (such as snooker and other cue sports), or primarily animal-supported (such as equestrian sport).[1]

The inclusion of mind sports within sport definitions has not been universally accepted, leading to legal challenges from governing bodies in regards to being denied funding available to sports.[11] Whilst GAISF recognises a small number of mind sports, it is not open to admitting any further mind sports.

There has been an increase in the application of the term "sport" to a wider set of non-physical challenges such as video games, also called esports (from "electronic sports"), especially due to the large scale of participation and organised competition, but these are not widely recognised by mainstream sports organisations. According to Council of Europe, European Sports Charter, article 2.i, "'Sport' means all forms of physical activity which, through casual or organised participation, aim at expressing or improving physical fitness and mental well-being, forming social relationships or obtaining results in competition at all levels."[12]

Competition

Horse racing

There are opposing views on the necessity of competition as a defining element of a sport, with almost all professional sports involving competition, and governing bodies requiring competition as a prerequisite of recognition by the International Olympic Committee (IOC) or GAISF.[1]

Other bodies advocate widening the definition of sport to include all physical activity. For instance, the Council of Europe include all forms of physical exercise, including those competed just for fun.

In order to widen participation, and reduce the impact of losing on less able participants, there has been an introduction of non-competitive physical activity to traditionally competitive events such as school sports days, although moves like this are often controversial.[13][14]

In competitive events, participants are graded or classified based on their "result" and often divided into groups of comparable performance, (e.g. gender, weight and age). The measurement of the result may be objective or subjective, and corrected with "handicaps" or penalties. In a race, for example, the time to complete the course is an objective measurement. In gymnastics or diving the result is decided by a panel of judges, and therefore subjective. There are many shades of judging between boxing and mixed martial arts, where victory is assigned by judges if neither competitor has lost at the end of the match time.

History

Main article: History of sport

Roman bronze reduction of Myron's Discobolos, 2nd century AD

Swimmers perform squats as warm-up exercise prior to entering the pool in a U.S. military base, 2011.

Artifacts and structures suggest sport in China as early as 2000 BC.[15] Gymnastics appears to have been popular in China's ancient past. Monuments to the Pharaohs indicate that a number of sports, including swimming and fishing, were well-developed and regulated several thousands of years ago in ancient Egypt.[16] Other Egyptian sports included javelin throwing, high jump, and wrestling. Ancient Persian sports such as the traditional Iranian martial art of Zoorkhaneh had a close connection to warfare skills.[17] Among other sports that originated in ancient Persia are polo and jousting. The traditional South Asian sport of kabaddi has been played for thousands of years, potentially as a preparation for hunting.[18]

Motorised sports have appeared since the advent of the modern age.

A wide range of sports were already established by the time of Ancient Greece and the military culture and the development of sport in Greece influenced one another considerably. Sport became such a prominent part of their culture that the Greeks created the Olympic Games, which in ancient times were held every four years in a small village in the Peloponnesus called Olympia.[19]

Sports have been increasingly organised and regulated from the time of the ancient Olympics up to the present century. Industrialisation has brought motorised transportation and increased leisure time, letting people attend and follow spectator sports and participate in athletic activities. These trends continued with the advent of mass media and global communication. Professionalism became prevalent, further adding to the increase in sport's popularity, as sports fans followed the exploits of professional athletes – all while enjoying the exercise and competition associated with amateur participation in sports. Since the turn of the 21st century, there has been increasing debate about whether transgender sports people should be able to participate in sport events that conform with their post-transition gender identity.[20]

Fair play

Sportsmanship

Main article: Sportsmanship

See also: Gamesmanship, Winning isn't everything; it's the only thing, and Moral development

Sportsmanship is an attitude that strives for fair play, courtesy toward teammates and opponents, ethical behaviour and integrity, and grace in victory or defeat.[21][22][23]

Sportsmanship expresses an aspiration or ethos that the activity will be enjoyed for its own sake. The well-known sentiment by sports journalist Grantland Rice, that it is "not that you won or lost but how you played the game", and the modern Olympic creed expressed by its founder Pierre de Coubertin: "The most important thing... is not winning but taking part" are typical expressions of this sentiment.

Cheating

See also: Match fixing and cheating

Key principles of sport include that the result should not be predetermined, and that both sides should have equal opportunity to win. Rules are in place to ensure fair play, but participants can break these rules in order to gain advantage.

Participants may cheat in order to unfairly increase their chance of winning, or in order to achieve other advantages such as financial gains. The widespread existence of gambling on the results of sports events creates a motivation for match fixing, where a participant or participants deliberately work to ensure a given outcome rather than simply playing to win.

Doping and drugs

Main article: Use of performance-enhancing drugs in sport

The competitive nature of sport encourages some participants to attempt to enhance their performance through the use of medicines, or through other means such as increasing the volume of blood in their bodies through artificial means.

All sports recognised by the IOC or SportAccord are required to implement a testing programme, looking for a list of banned drugs, with suspensions or bans being placed on participants who test positive for banned substances.

Violence

Violence in sports involves crossing the line between fair competition and intentional aggressive violence. Athletes, coaches, fans, and parents sometimes unleash violent behaviour on people or property, in misguided shows of loyalty, dominance, anger, or celebration. Rioting or hooliganism by fans in particular is a problem at some national and international sporting contests.[citation needed]

Participation

Gender participation

See also: Women's sports and Women's professional sports

International level female athletes at ISTAF Berlin, 2006

Female participation in sports continues to rise alongside the opportunity for involvement and the value of sports for child development and physical fitness. Despite increases in female participation during the last three decades, a gap persists in the enrolment figures between male and female players in sports-related teams. Female players account for 39% of the total participation in US interscholastic athletics.

Certain sports are mixed-gender, allowing (or even requiring) men and women to play on the same team. One example of this is Baseball5, which is the first mixed-gender sport to have been admitted into an Olympic event.[24]

Youth participation

See also: College sports

Youth sport presents children with opportunities for fun, socialisation, forming peer relationships, physical fitness, and athletic scholarships. Activists for education and the war on drugs encourage youth sport as a means to increase educational participation and to fight the illegal drug trade. According to the Center for Injury Research and Policy at Nationwide Children's Hospital, the biggest risk for youth sport is death or serious injury including concussion. These risks come from running, basketball, association football, volleyball, gridiron, gymnastics, and ice hockey.[25] Youth sport in the US is a $15 billion industry including equipment up to private coaching.[26]

Disabled participation

See also: Parasports

A runner gives a friendly tap on the shoulder to a wheelchair racer during the Marathon International de Paris (Paris Marathon) in 2014.

Disabled sports also adaptive sports or parasports, are sports played by people with a disability, including physical and intellectual disabilities. As many of these are based on existing sports modified to meet the needs of people with a disability, they are sometimes referred to as adapted sports. However, not all disabled sports are adapted; several sports that have been specifically created for people with a disability have no equivalent in able-bodied sports.

Spectator involvement

Main article: Spectator sport

Spectators at the 1906 unofficial Olympic Games

The competition element of sport, along with the aesthetic appeal of some sports, result in the popularity of people attending to watch sport being played. This has led to the specific phenomenon of spectator sport.

Both amateur and professional sports attract spectators, both in person at the sport venue, and through broadcast media including radio, television and internet broadcast. Both attendance in person and viewing remotely can incur a sometimes substantial charge, such as an entrance ticket, or pay-per-view television broadcast. Sports league and tournament are two common arrangements to organise sport teams or individual athletes into competing against each other continuously or periodically.

It is common for popular sports to attract large broadcast audiences, leading to rival broadcasters bidding large amounts of money for the rights to show certain events. The football World Cup attracts a global television audience of hundreds of millions; the 2006 final alone attracted an estimated worldwide audience of well over 700 million and the 2011 Cricket World Cup Final attracted an estimated audience of 135 million in India alone.[27]

In the United States, the championship game of the NFL, the Super Bowl, has become one of the most watched television broadcasts of the year.[28][29] Super Bowl Sunday is a de facto national holiday in America;[30][31] the viewership being so great that in 2015, advertising space was reported as being sold at $4.5m for a 30-second slot.[28]

Amateur and professional

See also: Professional sport and Amateur sport

Women's volleyball team of a U.S. university

Sport can be undertaken on an amateur, professional or semi-professional basis, depending on whether participants are incentivised for participation (usually through payment of a wage or salary). Amateur participation in sport at lower levels is often called "grassroots sport".[2][32]

The popularity of spectator sport as a recreation for non-participants has led to sport becoming a major business in its own right, and this has incentivised a high paying professional sport culture, where high performing participants are rewarded with pay far in excess of average wages, which can run into millions of dollars.[33]

Some sports, or individual competitions within a sport, retain a policy of allowing only amateur sport. The Olympic Games started with a principle of amateur competition with those who practised a sport professionally considered to have an unfair advantage over those who practised it merely as a hobby.[34] From 1971, Olympic athletes were allowed to receive compensation and sponsorship,[35] and from 1986, the IOC decided to make all professional athletes eligible for the Olympics,[35][36] with the exceptions of boxing,[37][38] and wrestling.[39][40]

Technology

These lights at the Melbourne Cricket Ground indicate the decision the third umpire makes following a review.

Technology plays an important part in modern sport. It is a necessary part of some sports (such as motorsport), and it is used in others to improve performance. Some sports also use it to allow off-field decision making.

Sports science is a widespread academic discipline, and can be applied to areas including athlete performance, such as the use of video analysis to fine-tune technique, or to equipment, such as improved running shoes or competitive swimwear. Sports engineering emerged as a discipline in 1998 with an increasing focus not just on materials design but also the use of technology in sport, from analytics and big data to wearable technology.[41] In order to control the impact of technology on fair play, governing bodies frequently have specific rules that are set to control the impact of technical advantage between participants. For example, in 2010, full-body, non-textile swimsuits were banned by FINA, as they were enhancing swimmers' performances.[42][43]

The increase in technology has also allowed many decisions in sports matches to be taken, or reviewed, off-field, with another official using instant replays to make decisions. In some sports, players can now challenge decisions made by officials. In Association football, goal-line technology makes decisions on whether a ball has crossed the goal line or not.[44] The technology is not compulsory,[45] but was used in the 2014 FIFA World Cup in Brazil,[46] and the 2015 FIFA Women's World Cup in Canada,[47] as well as in the Premier League from 2013–14,[48] and the Bundesliga from 2015–16.[49] In the NFL, a referee can ask for a review from the replay booth, or a head coach can issue a challenge to review the play using replays. The final decision rests with the referee.[50] A video referee (commonly known as a Television Match Official or TMO) can also use replays to help decision-making in rugby (both league and union).[51][52] In international cricket, an umpire can ask the Third umpire for a decision, and the third umpire makes the final decision.[53][54] Since 2008, a decision review system for players to review decisions has been introduced and used in ICC-run tournaments, and optionally in other matches.[53][55] Depending on the host broadcaster, a number of different technologies are used during an umpire or player review, including instant replays, Hawk-Eye, Hot Spot and Real Time Snickometer.[56][57] Hawk-Eye is also used in tennis to challenge umpiring decisions.[58][59]

Sports and education

Research suggests that sports have the capacity to connect youth to positive adult role models and provide positive development opportunities, as well as promote the learning and application of life skills.[60][61] In recent years the use of sport to reduce crime, as well as to prevent violent extremism and radicalization, has become more widespread, especially as a tool to improve self-esteem, enhance social bonds and provide participants with a feeling of purpose.[61]

There is no high-quality evidence that shows the effectiveness of interventions to increase sports participation of the community in sports such as mass media campaigns, educational sessions, and policy changes.[62] There is also no high-quality studies that investigate the effect of such interventions in promoting healthy behaviour change in the community.[63] sports is one of the important part of life

Politics

Main article: Politics and sports

Benito Mussolini used the 1934 FIFA World Cup, which was held in Italy, to showcase Fascist Italy.[64][65] Adolf Hitler also used the 1936 Summer Olympics held in Berlin, and the 1936 Winter Olympics held in Garmisch-Partenkirchen, to promote the Nazi ideology of the superiority of the Aryan race, and inferiority of the Jews and other "undesirables".[65][66] Germany used the Olympics to give off a peaceful image while secretly preparing for war.[67]

When apartheid was the official policy in South Africa, many sports people, particularly in rugby union, adopted the conscientious approach that they should not appear in competitive sports there. Some feel this was an effective contribution to the eventual demolition of the policy of apartheid, others feel that it may have prolonged and reinforced its worst effects.[68]

In the history of Ireland, Gaelic sports were connected with cultural nationalism. Until the mid-20th century a person could have been banned from playing Gaelic football, hurling, or other sports administered by the Gaelic Athletic Association (GAA) if she/he played or supported Association football, or other games seen to be of British origin. Until recently the GAA continued to ban the playing of football and rugby union at Gaelic venues. This ban, also known as Rule 42,[69] is still enforced, but was modified to allow football and rugby to be played in Croke Park while Lansdowne Road was redeveloped into Aviva Stadium. Until recently, under Rule 21, the GAA also banned members of the British security forces and members of the RUC from playing Gaelic games, but the advent of the Good Friday Agreement in 1998 led to the eventual removal of the ban.[70]

Nationalism is often evident in the pursuit of sport, or in its reporting: people compete in national teams, or commentators and audiences can adopt a partisan view. On occasion, such tensions can lead to violent confrontation among players or spectators within and beyond the sporting venue, as in the Football War. These trends are seen by many as contrary to the fundamental ethos of sport being carried on for its own sake and for the enjoyment of its participants.

Sport and politics collided in the 1972 Olympics in Munich. Masked men entered the hotel of the Israeli Olympic team and killed many of their men. This was known as the Munich massacre.

A study of US elections has shown that the result of sports events can affect the results. A study published in the Proceedings of the National Academy of Sciences showed that when the home team wins the game before the election, the incumbent candidates can increase their share of the vote by 1.5 per cent. A loss had the opposite effect, and the effect is greater for higher-profile teams or unexpected wins and losses.[71] Also, when Washington Redskins win their final game before an election, then the incumbent president is more likely to win, and if the Redskins lose, then the opposition candidate is more likely to win; this has become known as the Redskins Rule.[72][73]

As a means of controlling and subduing populations

Étienne de La Boétie, in his essay Discourse on Voluntary Servitude describes athletic spectacles as means for tyrants to control their subjects by distracting them.

Do not imagine that there is any bird more easily caught by decoy, nor any fish sooner fixed on the hook by wormy bait, than are all these poor fools neatly tricked into servitude by the slightest feather passed, so to speak, before their mouths. Truly it is a marvellous thing that they let themselves be caught so quickly at the slightest tickling of their fancy. Plays, farces, spectacles, gladiators, strange beasts, medals, pictures, and other such opiates, these were for ancient peoples the bait toward slavery, the price of their liberty, the instruments of tyranny. By these practices and enticements the ancient dictators so successfully lulled their subjects under the yoke, that the stupefied peoples, fascinated by the pastimes and vain pleasures flashed before their eyes, learned subservience as naïvely, but not so creditably, as little children learn to read by looking at bright picture books.[74]

During the British rule of Bengal, British and European sports began to supplant traditional Bengali sports, resulting in a loss of native culture.[75][76]

Religious views

Main article: New Testament athletic metaphors

The foot race was one of the events dedicated to Zeus. Panathenaic amphora, Kleophrades painter, c. 500 BC, Louvre museum.

Sport was an important form of worship in Ancient Greek religion. The ancient Olympic Games were held in honour of the head deity, Zeus, and featured various forms of religious dedication to him and other gods.[77] As many Greeks travelled to see the games, this combination of religion and sport also served as a way of uniting them.

The practice of athletic competitions has been criticised by some Christian thinkers as a form of idolatry, in which "human beings extol themselves, adore themselves, sacrifice themselves and reward themselves."[78] Sports are seen by these critics as a manifestation of "collective pride" and "national self-deification" in which feats of human power are idolised at the expense of divine worship.[78]

Tertullian condemns the athletic performances of his day, insisting "the entire apparatus of the shows is based upon idolatry."[79] The shows, says Tertullian, excite passions foreign to the calm temperament cultivated by the Christian:

God has enjoined us to deal calmly, gently, quietly, and peacefully with the Holy Spirit, because these things are alone in keeping with the goodness of His nature, with His tenderness and sensitiveness. ... Well, how shall this be made to accord with the shows? For the show always leads to spiritual agitation, since where there is pleasure, there is keenness of feeling giving pleasure its zest; and where there is keenness of feeling, there is rivalry giving in turn its zest to that. Then, too, where you have rivalry, you have rage, bitterness, wrath and grief, with all bad things which flow from them – the whole entirely out of keeping with the religion of Christ.[80]

Christian clerics in the Wesleyan-Holiness movement oppose the viewing of or participation in professional sports, believing that professional sports leagues profane the Sabbath as in the modern era, certain associations hold games on the Lord's Day.[81] They also criticise professional sports for its fostering of a commitment that competes with a Christian's primary commitment to God in opposition to 1 Corinthians 7:35, what they perceive to be a lack of modesty in the players' and cheerleaders' uniforms (which are not in conformity with the Methodistic doctrine of outward holiness), its association with violence in opposition to Hebrews 7:26, what they perceive to be the extensive use of profanity among many players that contravenes Colossians 3:8–10, and the frequent presence of gambling, as well as alcohol and other drugs at sporting events, which go against a commitment to teetotalism.[81]

Popularity

Popularity in 2018 of major sports by size of fan base:[7]

Rank Sport Estimated Global Following Sphere of Influence

1 Association football (Soccer) 4 billion Globally

2 Cricket 2.5 billion primarily UK and Commonwealth, South Asia (Indian subcontinent)

3 Hockey (Ice and Field) 2 billion Europe, North America, Africa, Asia and Australia

4 Tennis 1 billion Globally

5 Volleyball (along with Beach Volleyball) 900 million Americas, Europe, Asia, Oceania

6 Table tennis 875 million Mainly East Asia

7 Basketball 825 million Globally

8 Baseball 500 million primarily United States, Caribbean and East Asia

9 Rugby (League and Union) 475 million primarily UK, Ireland, France, Italy, Oceania, South Africa, Argentina, and Japan.

10 Golf 450 million primarily Western Europe, East Asia and North America

See also

Sports portal

Outline of sports

List of sports

List of sportspeople

List of sports attendance figures

List of professional sports leagues

New Media and Sports

Related topics

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Electronic sports

Fan (person)

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