Disease

A **disease** is an abnormal condition that affects the body of an organism. It is often construed as a **medical condition** associated with specific symptoms and signs.[1] It may be caused by factors originally from an external source, such as infectious disease, or it may be caused by internal dysfunctions, such as autoimmune diseases. In humans, "disease" is often used more broadly to refer to any condition that causes pain, dysfunction, distress, social problems, or death to the person afflicted, or similar problems for those in contact with the person. In this broader sense, it sometimes includes injuries, disabilities, disorders, syndromes, infections, isolated symptoms, deviant behaviors, and atypical variations of structure and function, while in other contexts and for other purposes these may be considered distinguishable categories. Diseases usually affect people not only physically, but also emotionally, as contracting and living with many diseases can alter one's perspective on life, and one's personality.

Death due to disease is called death by natural causes. There are four main types of disease: pathogenic disease, deficiency disease, hereditary disease, and physiological disease. Diseases can also be classified as communicable and non-communicable disease.

Concepts[edit]

In many cases, the terms *disease*, *disorder*, *morbidity* and *illness* are used interchangeably.[2] In some situations, specific terms are considered preferable.

Disease

> The term *disease* broadly refers to any condition that impairs normal function, and is therefore associated with dysfunction of normal homeostasis.[3] Commonly, the term *disease* is used to refer specifically to infectious diseases, which are clinically evident diseases that result from the presence of pathogenic microbial agents, including viruses, bacteria, fungi, protozoa, multicellular organisms, and aberrant proteins known as prions. An infection that does not and will not produce clinically evident impairment of normal functioning, such as the presence of the normal bacteria and yeasts in the gut, or of a passenger virus, is not considered a disease. By contrast, an infection that is asymptomatic during its incubation period, but expected to produce symptoms later, is usually considered a disease. Non-infectious diseases are all other diseases, including most forms of cancer, heart disease, and genetic disease.

Illness

> *Illness* and *sickness* are generally used as synonyms for *disease*.[4] However, this term is occasionally used to refer specifically to the patient's personal experience of his or her disease.[5][6]
>
> In this model, it is possible for a person to have a disease without being ill (to have an objectively definable, but asymptomatic, medical condition), and to be *ill* without being *diseased* (such as when a person perceives a normal experience as a medical condition, or medicalizes a

non-disease situation in his or her life). Illness is often not due to infection, but to a collection of evolved responses—sickness behavior by the body—that helps clear infection. Such aspects of illness can include lethargy, depression, anorexia, sleepiness, hyperalgesia, and inability to concentrate.[7][8][9]

Disorder

In medicine, a **disorder** is a functional abnormality or disturbance. Medical disorders can be categorized into mental disorders, physical disorders, genetic disorders, emotional and behavioral disorders, and functional disorders. The term *disorder* is often considered more value-neutral and less stigmatizing than the terms *disease* or *illness*, and therefore is preferred terminology in some circumstances. In mental health, the term mental disorder is used as a way of acknowledging the complex interaction of biological, social, and psychological factors in psychiatric conditions. However, the term *disorder* is also used in many other areas of medicine, primarily to identify physical disorders that are not caused by infectious organisms, such as metabolic disorders.

Medical condition

A **medical condition** is a broad term that includes all diseases and disorders. While the term *medical condition* generally includes mental illnesses, in some contexts the term is used specifically to denote any illness, injury, or disease except for mental illnesses. The Diagnostic and Statistical Manual of Mental Disorders (DSM), the widely used psychiatric manual that defines all mental disorders, uses the term *general medical condition* to refer to all diseases, illnesses, and injuries except for mental disorders.[10] This usage is also commonly seen in the psychiatric literature. Some health insurance policies also define a *medical condition* as any illness, injury, or disease except for psychiatric illnesses.[11]

As it is more value-neutral than terms like *disease*, the term *medical condition* is sometimes preferred by people with health issues that they do not consider deleterious. On the other hand, by emphasizing the medical nature of the condition, this term is sometimes rejected, such as by proponents of the autism rights movement.

The term *medical condition* is also a synonym for *medical state*, in which case it describes an individual patient's current state from a medical standpoint. This usage appears in statements that describe a patient as being *in critical condition*, for example.

Morbidity

Morbidity (from Latin *morbidus*, meaning "sick, unhealthy") is a diseased state, disability, or poor health due to any cause.[12] The term may be used to refer to the existence of any form of disease, or to the degree that the health condition affects the patient. Among severely ill patients, the level of morbidity is often measured by ICU scoring systems. Comorbidity is the

simultaneous presence of two or more medical conditions, such as schizophrenia and substance abuse.

In epidemiology and actuarial science, the term "morbidity rate" can refer to either the incidence rate, or the prevalence of a disease or medical condition. This measure of sickness is contrasted with the mortality rate of a condition, which is the proportion of people dying during a given time interval.

Syndrome

A syndrome is the association of several medical signs, symptoms, and or other characteristics that often occur together. Some syndromes, such as Down syndrome, have only one cause; others, such as Parkinsonian syndrome, have multiple possible causes. In other cases, the cause of the syndrome is unknown. A familiar syndrome name often remains in use even after an underlying cause has been found, or when there are a number of different possible primary causes.

Predisease

Predisease is a type of disease creep or medicalization in which currently healthy people with risk factors for disease, but no evidence of actual disease, are told that they are sick. Prediabetes and prehypertension are common examples. Labeling a healthy person with predisease can result in overtreatment, such as taking drugs that only help people with severe disease, or in useful preventive measures, such as motivating the person to get a healthful amount of physical exercise.[13]

http://en.wikipedia.org/wiki/Disease

Addiction is NOT a Brain Disease, It is a Choice

They're screaming it from the rooftops: "addiction is a disease, and you can't stop it without medical treatment"! But why are they screaming it so loud, why are they browbeating us about it, why is it always mentioned with a qualifier? You don't hear people constantly referring to cancer as "the disease of cancer" – it's just "cancer", because it's obvious that cancer is a disease, it's been conclusively proven that the symptoms of cancer can't be directly stopped with mere choices – therefore no qualifier is needed. On the other hand, addiction to drugs and alcohol is not obviously a disease, and to call it such we must either overlook the major gaps in the disease argument, or we must completely redefine the term "disease".

Real Diseases versus The Disease Concept or Theory of Drug Addiction

In a true disease, some part of the body is in a state of abnormal physiological functioning, and this causes the undesirable symptoms. In the case of cancer, it would be mutated cells which we point to as evidence of a physiological abnormality, in diabetes we can point to low insulin production or cells which fail to use insulin properly as the physiological abnormality which create the harmful symptoms. If a person has either of these diseases, they cannot directly

choose to stop their symptoms or directly choose to stop the abnormal physiological functioning which creates the symptoms. They can only choose to stop the physiological abnormality indirectly, by the application of medical treatment, and in the case of diabetes, dietetic measures may also indirectly halt the symptoms as well (but such measures are not a cure so much as a lifestyle adjustment necessitated by permanent physiological malfunction).

In addiction, there is no such physiological malfunction. The best physical evidence put forward by the disease proponents falls totally flat on the measure of representing a physiological malfunction. This evidence is the much touted brain scan[1]. The organization responsible for putting forth these brain scans, the National Institute on Drug Abuse and Addiction (NIDA), defines addiction in this way:

Addiction is defined as a chronic relapsing brain disease that is characterized by compulsive drug seeking and use, despite harmful consequences. It is considered a brain disease because drugs change the brain – they change it's structure and how it works. These brain changes can be long lasting, and can lead to the harmful behaviors seen in people who abuse drugs.

http://www.thecleanslate.org/myths/addiction-is-not-a-brain-disease-it-is-a-choice/

Substance Abuse

Substance abuse refers to the harmful or hazardous use of psychoactive substances, including alcohol and illicit drugs. Psychoactive substance use can lead to dependence syndrome - a cluster of behavioural, cognitive, and physiological phenomena that develop after repeated substance use and that typically include a strong desire to take the drug, difficulties in controlling its use, persisting in its use despite harmful consequences, a higher priority given to drug use than to other activities and obligations, increased tolerance, and sometimes a physical withdrawal state.

Policies which influence the levels and patterns of substance use and related harm can significantly reduce the public health problems attributable to substance use, and interventions at the health care system level can work towards the restoration of health in affected individuals.

Facts and figures

The bare facts

We know what can and needs to be done to help reduce the burden of psychoactive substance use. Therefore, WHO is committed to assisting countries in the development, organization, monitoring and evaluation of treatment and other services.

- The harmful use of alcohol results in 2.5 million deaths each year.
- 320,000 young people between the age of 15 and 29 die from alcohol-related causes, resulting in 9% of all deaths in that age group.
- At least 15.3 million persons have drug use disorders.
- Injecting drug use reported in 148 countries, of which 120 report HIV infection among this population.

Alcohol

The harmful use of alcohol is a global problem which compromises both individual and social development. It results in 2.5 million deaths each year. Alcohol is the world's third largest risk factor for premature mortality, disability and loss of health; it is the leading risk factor in the Western Pacific and the Americas and the second largest in Europe. Alcohol is associated with many serious social and developmental issues, including violence, child neglect and abuse, and absenteeism in the workplace. It also causes harm far beyond the physical and psychological health of the drinker. It harms the well-being and health of people around the drinker. An intoxicated person can harm others or put them at risk of traffic accidents or violent behaviour, or negatively affect co-workers, relatives, friends or strangers. Thus, the impact of the harmful use of alcohol reaches deep into society.

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Harmful drinking is a major determinant for neuropsychiatric disorders, such as alcohol use disorders and epilepsy and other noncommunicable diseases such as cardiovascular diseases, cirrhosis of the liver and various cancers. The harmful use of alcohol is also associated with several infectious diseases like HIV/AIDS, tuberculosis and sexually transmitted infections (STIs). This is because alcohol consumption weakens the immune system and has a negative effect on patients' adherence to antiretroviral treatment.

A significant proportion of the disease burden attributable to harmful drinking arises from unintentional and intentional injuries, including those due to road traffic accidents, violence, and suicides. Fatal injuries attributable to alcohol consumption tend to occur in relatively younger age groups.

Other psychoactive substances

Recent estimates are that in 2008, 155 to 250 million people, or 3.5% to 5.7% of the world's population aged 15-64, used other psychoactive substances, such as cannabis, amphetamines, cocaine, opioids, and non-prescribed psychoactive prescription medication. Globally, cannabis is the most commonly used (129-190 million people), followed by amphetamine type stimulants, then cocaine and opioids.

The use of psychoactive substances causes significant health and social problems for the people who use them, and also for others in their families and communities. WHO estimated that 0.7% of the global burden of disease in 2004 was due to cocaine and opioid use, with the social cost of illicit substance use being in the region of 2% of GDP in those countries which have measured it.

World Drug Report 2012

Illicit drug markets have global dimensions and require coordinated responses on a comparable scale. In this context, the *World Drug Report* aims to improve understanding of the illicit drug problem and contribute to more international cooperation for countering it.
This year's edition begins with an overview of recent trends and the current situation in terms of production, trafficking and consumption and the consequences of illicit drug use in terms of treatment, drug-related diseases and drug-related deaths. The second chapter presents a long-term perspective: it looks at the main characteristics of the contemporary drug problem, the ways it has changed over the last few decades, the driving factors that shaped this evolution, and the directions it is likely to take in the future.

The Report is considerably shorter than previous editions, and the Statistical Annex is now published electronically on a CD-ROM, as well as on this website.

http://www.unodc.org/unodc/en/data-and-analysis/WDR-2012.html

Performance-enhancing drugs: Know the risks

Are you hoping to gain a competitive edge by taking muscle-building supplements or other performance-enhancing drugs? Learn how these drugs work and how they can affect your health.

By Mayo Clinic staff

Most serious athletes will tell you that the competitive drive to win can be fierce. Besides the satisfaction of personal accomplishment, athletes often pursue dreams of winning a medal for their country or securing a spot on a professional team. In such an environment, the use of performance-enhancing drugs has become increasingly common.

But using performance-enhancing drugs — aka, doping — isn't without risks. Take the time to learn about the potential benefits, the health risks and the many unknowns regarding so-called performance-enhancing drugs such as anabolic steroids, androstenedione, human growth hormone, erythropoietin, diuretics, creatine and stimulants. You may decide that the benefits aren't worth the risks.

Anabolic steroids

What are they?
Some athletes take a form of steroids — known as anabolic-androgen steroids or just anabolic steroids — to increase their muscle mass and strength. The main anabolic steroid hormone produced by your body is testosterone.

Testosterone has two main effects on your body:

- **Anabolic effects** promote muscle building.

- **Androgenic effects** are responsible for male traits, such as facial hair and a deeper voice.

  Some athletes take straight testosterone to boost their performance. Frequently, the anabolic steroids that athletes use are synthetic modifications of testosterone. These hormones have approved medical uses, though improving athletic performance is not one of them. They can be taken as pills, injections or topical treatments.

  Why are these drugs so appealing to athletes? Besides making muscles bigger, anabolic steroids may help athletes recover from a hard workout more quickly by reducing the muscle damage that occurs during the session. This enables athletes to work out harder and more frequently without overtraining. In addition, some athletes may like the aggressive feelings they get when they take the drugs.

  Designer steroids
  A particularly dangerous class of anabolic steroids are the so-called designer drugs — synthetic steroids that have been illicitly created to be undetectable by current drug tests. They are made specifically for athletes and have no approved medical use. Because of this, they haven't been tested or approved by the Food and Drug Administration (FDA) and represent a particular health threat to athletes.

  Risks
  Many athletes take anabolic steroids at doses that are much higher than those prescribed for medical reasons, and most of what is known about the drugs' effects on athletes comes from observing users. It is impossible for researchers to design studies that would accurately test the effects of large doses of steroids on athletes, because giving participants such high doses would be unethical. This means that the effects of taking anabolic steroids at very high doses haven't been well studied.

  Anabolic steroids come with serious physical side effects as well.

  Men may develop:

- Prominent breasts
- Baldness
- Shrunken testicles
- Infertility
- Impotence

  Women may develop:
- A deeper voice
- An enlarged clitoris
- Increased body hair
- Baldness
- Infrequent or absent periods

  Both men and women might experience:
- Severe acne
- Increased risk of tendinitis and tendon rupture
- Liver abnormalities and tumors

- Increased low-density lipoprotein (LDL) cholesterol (the "bad" cholesterol)
- Decreased high-density lipoprotein (HDL) cholesterol (the "good" cholesterol)
- High blood pressure (hypertension)
- Heart and circulatory problems
- Prostate gland enlargement
- Aggressive behaviors, rage or violence
- Psychiatric disorders, such as depression
- Drug dependence
- Infections or diseases such as HIV or hepatitis if you're injecting the drugs
- Inhibited growth and development, and risk of future health problems in teenagers

Taking anabolic-androgenic steroids to enhance athletic performance, besides being prohibited by most sports organizations, is illegal. In the past 20 years, more effective law enforcement in the United States has pushed much of the illegal steroid industry into the black market. This poses additional health risks because the drugs are either made in other countries and smuggled in or made in clandestine labs in the United States. Either way, they aren't subject to government safety standards and could be impure or mislabeled.

Androstenedione

What is it?
Androstenedione (andro) is a hormone produced by the adrenal glands, ovaries and testes. It's a hormone that's normally converted to testosterone and estradiol in both men and women.

Andro is available legally only in prescription form, and is a controlled substance. Manufacturers and bodybuilding magazines tout its ability to allow athletes to train harder and recover more quickly. However, its use as a performance-enhancing drug is illegal in the United States.

Scientific studies that refute these claims show that supplemental androstenedione doesn't increase testosterone and that your muscles don't get stronger with andro use. In fact, almost all of the andro is rapidly converted to estrogen, the primary hormone in females.

Risks
Side effects of andro in men include:

- Acne
- Diminished sperm production
- Shrinking of the testicles
- Enlargement of the breasts

In women, side effects include:
- Acne
- Masculinization, such as deepening of the voice and male-pattern baldness

In both men and women, andro can decrease HDL cholesterol (the "good" cholesterol), which puts you at greater risk of heart attack and stroke.

Human growth hormone

What is it?
Human growth hormone, also known as gonadotropin, is a hormone that has an anabolic effect. Athletes take it to improve muscle mass and performance. However, it hasn't been shown conclusively to improve either strength or endurance. It is available only by prescription and is administered by injection.

Risks
Adverse effects related to human growth hormone range in severity and may include:

- Joint pain
- Muscle weakness
- Fluid retention
- Carpal tunnel syndrome
- Impaired glucose regulation
- Cardiomyopathy
- High cholesterol (hyperlipidemia)
- Diabetes
- High blood pressure (hypertension)

Erythropoietin

What is it?
Erythropoietin is a type of hormone used to treat anemia in people with severe kidney disease. It increases production of red blood cells and hemoglobin, resulting in improved movement of oxygen to the muscles. Epoetin, a synthetic form of erythropoietin, is commonly used by endurance athletes.

Risks
Erythropoietin use among competitive cyclists was common in the 1990s and allegedly contributed to at least 18 deaths. Inappropriate use of erythropoietin may increase the risk of thrombotic events, such as stroke, heart attack and pulmonary edema.

Performance-enhancing drugs: Know the risks

Diuretics

What are they?
Diuretics are drugs that change your body's natural balance of fluids and salts (electrolytes) and can lead to dehydration. This loss of water can decrease an athlete's weight, helping him or her to compete in a lighter weight class, which many athletes prefer. Diuretics may also help athletes pass drug tests by diluting their urine and are sometimes referred to as a "masking" agent.

Risks
Diuretics taken at any dose, even medically recommended doses, predispose athletes to adverse effects such as:

- Dehydration
- Muscle cramps
- Exhaustion
- Dizziness
- Fainting
- Potassium deficiency
- Heart arrhythmias
- Drop in blood pressure
- Loss of coordination and balance
- Heatstroke
- Death

Creatine

What is it?

Many athletes take nutritional supplements instead of or in addition to performance-enhancing drugs. Supplements are available over-the-counter as powders or pills.

The most popular supplement among athletes is probably creatine monohydrate. Creatine is a naturally occurring compound produced by your body that helps your muscles release energy.

Scientific research indicates that creatine may have some athletic benefit by producing small gains in short-term bursts of power. Creatine appears to help muscles make more adenosine triphosphate (ATP), which stores and transports energy in cells, and is used for quick bursts of activity, such as weightlifting or sprinting. There's no evidence, however, that creatine enhances performance in aerobic or endurance sports.

Your liver produces about 0.07 ounces (2 grams) of creatine each day. You also get creatine from the meat in your diet. Creatine is stored in your muscles, and levels are relatively easily maintained. Because your kidneys remove excess creatine, the value of supplements to someone who already has adequate muscle creatine content is questionable.

Risks

Supplements are considered food and not drugs by the FDA. This means supplement manufacturers are not required to conform to the same standards as drug manufacturers do. In some cases, supplements have been found to be contaminated with other substances, which may inadvertently lead to a positive test for performance-enhancing drugs.

Possible side effects of creatine that can decrease athletic performance include:

- Stomach cramps
- Muscle cramps

- Nausea
- Diarrhea
- Weight gain

Weight gain is sought after by athletes who want to increase their size. But with prolonged creatine use, weight gain is more likely the result of water retention than an increase in muscle mass. Water is drawn into your muscle tissue, away from other parts of your body. This puts you at risk of dehydration.

High-dose creatine use may potentially damage your:

- Kidneys
- Liver

It appears safe for adults to use creatine at the doses recommended by manufacturers. But there are no studies investigating the long-term benefits and risks of creatine supplementation.

Stimulants

What are they?

Some athletes use stimulants to stimulate the central nervous system and increase heart rate and blood pressure.

Stimulants can:

- Improve endurance
- Reduce fatigue
- Suppress appetite
- Increase alertness and aggressiveness

Common stimulants include caffeine and amphetamines. Cold remedies often contain the stimulants ephedrine or pseudoephedrine hydrochloride. Energy drinks, which are popular among many athletes, often contain high doses of caffeine and other stimulants. The street drugs cocaine and methamphetamine also are stimulants.

Risks

Although stimulants can boost physical performance and promote aggressiveness on the field, they have side effects that can impair athletic performance.

- Nervousness and irritability, which make it hard to concentrate on the game.
- Insomnia, which can prevent an athlete from getting needed sleep.
- Dehydration.
- Heatstroke.
- Addiction or tolerance, meaning that athletes need greater amounts to achieve the desired effect, so they'll take doses that are much higher than the intended medical dose.

Other side effects include:

- Heart palpitations
- Heart rhythm abnormalities
- Weight loss
- Tremors
- Mild high blood pressure (hypertension)
- Hallucinations
- Convulsions
- Stroke
- Heart attack and other circulatory problems

The bottom line

Do performance-enhancing drugs boost performance? Some athletes may appear to achieve physical gains from such drugs, but at what cost? The long-term effects of performance-enhancing drugs haven't been rigorously studied. And short-term benefits are tempered by many risks. Not to mention that doping is prohibited by most sports organizations. No matter how you look at it, using performance-enhancing drugs is risky business.

- Eating and exercise: 5 tips to maximize your workouts
- Water: How much should you drink every day?
- Sports nutrition basics
- Brominated vegetable oil: Why is BVO in my drink?
- Carbohydrate-loading diet
- Energy drinks: Do they really boost energy?
- What's behind the buzz about coconut water?
- Milk joins the roster of sports drinks

http://www.mayoclinic.com/health/performance-enhancing-drugs/HQ01105/NSECTIONGROUP=2

Importance of Avoiding Excessive Emotion and Stress

Research has revealed an important role the family can play in helping in the recovery of a person with psychotic experiences. In particular, attitudes of friends and relatives towards the person, and how they understand and react to the person's experiences are very important. They can also influence the extent to which the person is able to recover. Of particular relevance to schizophrenia is the level of "expressed emotion" (yelling, shouting, fighting, or critical or hostile comments) and stress that is in the living environment of the person with schizophrenia. Research has demonstrated that individuals from families with high "expressed emotion" are 3.7 times more likely to relapse than in families from low expressed emotion families.

Family relationships

The evidence is now fairly clear, and has been repeated on many occasions, that family members' attitudes can affect the outcome for people diagnosed with schizophrenia or bipolar disorder. There are two important aspects to this.

The first is that friends and relatives occasionally find dealing with some of the problems that can be associated with psychotic experiences (particularly embarrassing , socially disruptive or socially withdrawn behaviour) frustrating and difficult, and sometimes become critical or actively hostile towards the individual.

The second reaction is to find the changes very upsetting and to try to look after the person rather as if they were a child again. While this ' emotionally over- involved' reaction is understandable and can be helpful in the short term, during recovery it can lead to dependence in the individual and exhaustion in the carer.

Either or both of these attitudes in carers (i.e. criticism or over- involvement) have been described as ' High Expressed Emotion'. If they become extreme, they have been found to lead to poorer outcome and an increased likelihood of a return of psychotic experiences. In contrast, people living in more supportive, tolerant, low Expressed Emotion environments tend to have a lower likelihood of a return of psychotic experiences, better social functioning, and better outcome.

Perhaps unsurprisingly, relatives who find caring particularly stressful also tend to have high levels of Expressed Emotion. The way someone's psychotic experiences are understood and explained by their friends, relatives and other people helping them is very important, and can help determine the extent to which they are able to recover.

Staff relationships

Not all caregivers are relatives; some individuals live in hostels, for example, and have important relationships with staff and other caregivers. It has been found that both relatives and staff caregivers find the same problems difficult (disruptive behaviour and social withdrawal). Up to 40 per cent demonstrate high levels of Expressed Emotion,

mainly criticism. Clearly any relationship, whether with family or staff, can be problematic. It is important to remember that this is true not only for psychotic experiences but also in a wide range of other long term and ongoing difficulties, such as depression, epilepsy, and even obesity.

This article is an edited extract from the followind pdf report (available for download, but it may take a few minutes depending upon your Internet link):

Understanding mental illness - Recent advances in understanding mental illness and psychotic experiences.
A report by The British Psychological Society Division of Clinical Psychology. 2002.
Published by BPS Division of Clinical Psychology.
ISBN:1 85433 333 X

http://www.schizophrenia.com/family/expressed.htm