

#### SCIENCE . TECHNOLOGY

# THE SCIENCE OF...

## 15 × 30' (GER, ENG subs) - long running series

The human body is still full of mysteries. We introduce you to its complex functions and show you innovative solutions.

The many functionalities of the human body remain a mystery, although it has been the subject of research for ages. In our rapidly changing society, social pressure and influences of environmental factors are steadily increasing. The result: people are becoming sick more often - both mentally and physically. We examine the complex functions of the human body and show you innovative solutions of how to sustainably fight these problems - be it a digital app, new drugs without side effects, or simple lifestyle changes.

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## 1. Sleep

Sleep is one of the most natural things in the world, and it is increasingly becoming a problem. What risks are hidden behind permanently bad sleep? How can sleep problems be solved? A new type of sleep medication is designed to replace the addictive sleeping pills of the past and gadgets of all kind promise to help.

## 2. Anxiety

Everyone knows fear. It is a natural emotional response that protects us from danger, yet 60 million people in Europe suffer from panic and anxiety attacks. Most of the time, anxiety attacks are triggered by traumatic experiences or constant emotional strain. When does fear become pathological? And what are the treatment options?

# 3. The Immune System

The immune system is a complicated structure that protects the body from disease day and night, 24/7. In recent years, scientists have gained a better understanding of how this crucial system works. How can the immune system be activated and even manipulated?

#### 4. Alcohol

Alcohol and humankind is a thousand year old love story. We drink to reward ourselves, to relax, to become tipsy. But alcohol is a cell poison. Is renunciation the only way to live healthy? Researchers are already working on an alcohol substitute that allows us to drink without remorse.

#### 5. Dreams

Until today, there has been no scientific explanation for dreams. For a long time, dreams were considered "emissions of the brain" and a tool for processing experiences. Nowadays, "clear dream researchers" are revolutionizing current theories on dreaming. What potential do our dreams have?

#### 6. Noise

Noisy urban environments have become a problem for many. Noise can be an environmental hazard and seriously harmful to health. The world must become quieter again, but how can noise be tackled efficiently? New innovations intend to fight against noise, such as noise-reducing asphalt or the noise-camera.

#### 7. Mushrooms

They are the secret rulers of the world and have much to offer: Mushrooms. Researchers are already working on environmentally friendly lamps, leather or packaging made of fungal wickerwork. Others are studying the healing effects of their poisons. Are they the next step in the treatment of depression and immune disorders?

## 8. Migraine

More than one billion people worldwide experience migraines. There are many therapeutic approaches, but they often only help in the short term. Can new and alternative approaches such as a prophylactic injection, an "anti-migraine piercing" and migraine surgery really help?

#### 9. Addiction

Alcohol, drugs, sex, gambling. Addiction in all its varieties fascinates us. But where does the routine end and the addiction begin? Studies show that only 20% of humans and animals ever develop addictions. Why are they so predisposed to it?



#### 10. Isolation

With the global response to the corona pandemic, isolation is part of everyday life. But isolation itself can also make us sick. What impact does isolation have on our mental health and immune system? Why do some people suffer from isolation more than others do? How can the consequences of isolation be reduced?

#### 11. Touch

No other sense arouses such strong feelings in us as the sense of touch. And yet, only a few hundred scientists worldwide are working on this. What does a lack of touch do to us as individuals and as a society? How does our touch system work? And: Can therapeutic touch also be used as a remedy?

#### 12. Tinnitus

Sometimes our brain produces sounds that the ear doesn't even hear. Sometimes it whistles spontaneously and at some point the sound disappears again. Sometimes, however, the tinnitus stays. Why? And how does the continuous tone in the ear develop? What role does the mental state and great stress play?

## 13. Breathing

With one breath a newborn is welcomed into the world, with one last exhale, we die. Breath accompanies us through life. We only realize how central it is when we suffer from respiratory distress. Yet only a few people are aware of how much we can control our breath and how breathing affects the body and illnesses.

#### 14. Hair Loss

More than 80 percent of men in Europe are affected by hair loss during their lifetime. One third of 30-year-olds today have at least a half-bald head. Accordingly, the hair transplant business is booming, as is the range of supposed hair growth products. But the desire for a life without baldness also drives many men to medication, the after-effects of which are often underestimated. The dream of a splendid head of hair has become a nightmare for them.

# 15. Anger

Anger is an explosive emotion - with a bad reputation. No wonder: Anger that breaks out unfiltered, that turns into aggression and violence, is socially unacceptable. It is important to keep one's composure and to keep one's head. And yet, anger - like joy, disgust, sadness or fearis part of our basic range of emotions. Suppressing it permanently can make us ill. But what exactly happens in the body when we get angry? What is the function of this powerful emotion and how can it be used constructively?