

Gunther von Hagens'

# BODY WORLDS

The **Happiness** Project Amsterdam

WONTDEK DE  
*Wonderen*  
VAN HET MENSELIJKE LICHAAM



*Persdossier*

DAMRAK 66

AMSTERDAM

BODYWORLDS.NL

# Press kit

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## Image gallery

**Amsterdam** – In the BODY WORLDS image gallery you'll find a selection of high resolution images of the BODY WORLDS: The Happiness Project exhibition. All images are free of rights, on the conditions that the right credits are mentioned. You can find the right credits under each photo.

Image gallery: [www.flickr.com/photos/bodyworldsnl](http://www.flickr.com/photos/bodyworldsnl)

**General** – In the BODY WORLDS image gallery, you'll find a selection of high resolution images available for download. Note: the following credits must be provided with each image: © Gunther von Hagens, Institute for Plastination, Heidelberg, Germany, [www.bodyworlds.nl](http://www.bodyworlds.nl).

Image gallery: [www.bodyworlds.com/en/media/picture\\_database.html](http://www.bodyworlds.com/en/media/picture_database.html)



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## 1. BODY WORLDS: *The Happiness Project*

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On Thursday, August 16th 2014, BODY WORLDS: *The Happiness Project* opened its permanent exhibition in the centre of Amsterdam.

BODY WORLDS tells the story of the human body and the influence that the emotional phenomenon of 'happiness' has on our health. Over 200 anatomical specimens of real human bodies reveal the complexity, resilience and vulnerability of the body. In addition to organ functions, common diseases are described in an easy-to-understand way by comparing healthy and affected organs. They show the long-term impact of diseases and addictions, such as tobacco or alcohol consumption, and demonstrate the mechanics of artificial knee and hip joints. The specimens on display were preserved through Plastination, the preservation process invented by Dr. Von Hagens in 1977, while he was working as an anatomist at the University of Heidelberg.

## 2. Search for Happiness

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Happiness is an elusive feeling that many are searching for. The fact that there is a direct link between happiness, health and well-being has been proven by major medical studies. In *BODY WORLDS: The Happiness Project*, these fundamental principles of happiness are examined through the lens of anatomy.

Visitors learn for example that people who are happy, live longer than people who are unhappy. That is good news in a country whose population has been one of the happiest in the world. Recent studies by the *World Health Organization (WHO)* even show that the Dutch youth is the happiest in the western world.

Angelina Whalley, creative and conceptual designer of the *BODY WORLDS* exhibitions, has been immersing herself in the phenomenon 'Happiness' for a decade.

“Many define it as a butterfly that is beyond our grasp, but more and more research is showing that we can catch it,” she said.

Our happiness depends on genes, circumstances, and action. About 50% of our happiness, according to social scientists, depends on our genetic makeup. Each person is born with the ability to achieve happiness. The happiness marker or 'set point', the natural level of happiness to which each person returns even after failures and triumphs, varies from person to person. Of the remainder, 10% of our happiness can result from our circumstances in life, such as financial, physical, social, and marital conditions and realities. The rest is within our control. A stunning 40% of our happiness can be achieved through our own actions.

In the exhibition you will learn how you can improve your level of happiness.

### 3. Purpose

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The primary purpose of the exhibition is to give information about health. BODY WORLDS informs the visitors about anatomy, physiology and health by displaying real human bodies. The anatomy exhibition appeals to a wide audience and will give visitors an insight into different aspects of the human body: the functions, the development, the influence of disease, the effects of poor health, good health and lifestyle choices.

People are more willing to live a healthy life if they understand how their body functions and when they see what harms their body. BODY WORLDS aims to encourage visitors to show more interest in medical and related sciences. Knowledge of the characteristics and functioning of the human body should be accessible to a wide audience.

The BODY WORLDS exhibitions has irrevocably changed the traditional field of anatomy and its audience. The BODY WORLDS exhibitions provide access to the plastination technique for the general public. This domain that was previously focused only on medical institutions and universities.

## 4. What is plastination?

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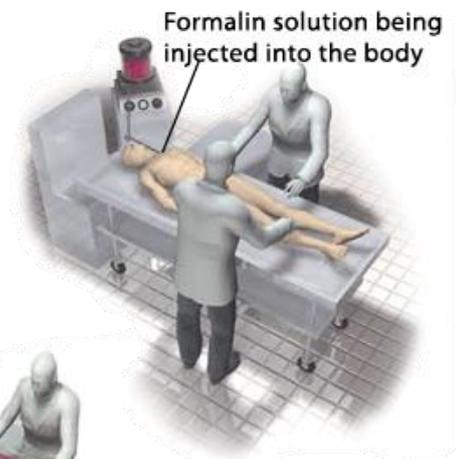
Plastination was invented by Dr. Gunther von Hagens in 1977, physician and scientist. Plastination is a pioneering preservation method that makes it possible to stop the decay of the dead body and produce anatomical specimens for scientific research and medical training that are sustainable in the long term.

During the Plastination process all body fluids and soluble fats will be extracted from the specimen. During the next step (vacuum-forced impregnation), the body fluids are replaced by reactive plastics, such as silicone rubber. Subsequently, the specimen is cured using light, heat or certain gases. In this way solid, odorless and durable preparations arise, which are exhibited in an aesthetic way. The final specimen or plastinates are rigid and sustainable.

## 5. Preservation by plastination

### 1. Embalming and Anatomical Dissection

The first step of the process involves halting decay by pumping formalin into the body through the arteries. Formalin kills all bacteria and chemically stops the decay of tissue. Using dissection tools, the skin, fatty and connective tissues are removed in order to prepare the individual anatomical structures.



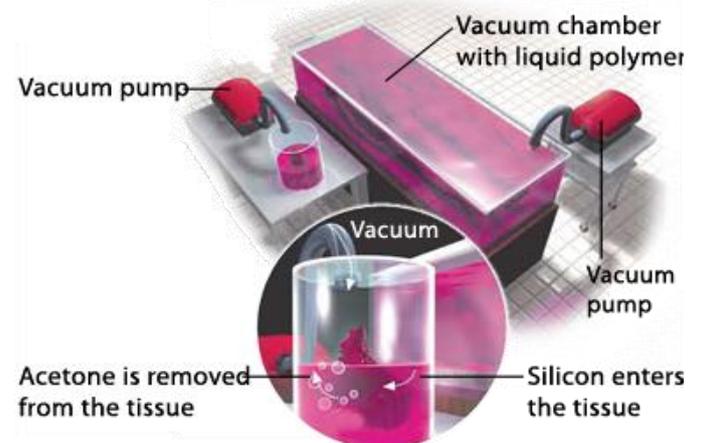
### 2. Removal of Body Fat and Water

In the first step, the body water and soluble fats are dissolved from the body by placing it into a solvent bath (e.g., an acetone bath).



### 3. Forced Impregnation

This second exchange process is the central step in Plastination. During forced impregnation a reactive polymer, e.g., silicone rubber, replaces the acetone. To achieve this, the specimen is immersed in a polymer solution and placed in vacuum chamber. The vacuum removes the acetone from the specimen and helps the polymer to penetrate every last cell.



### 4. Positioning

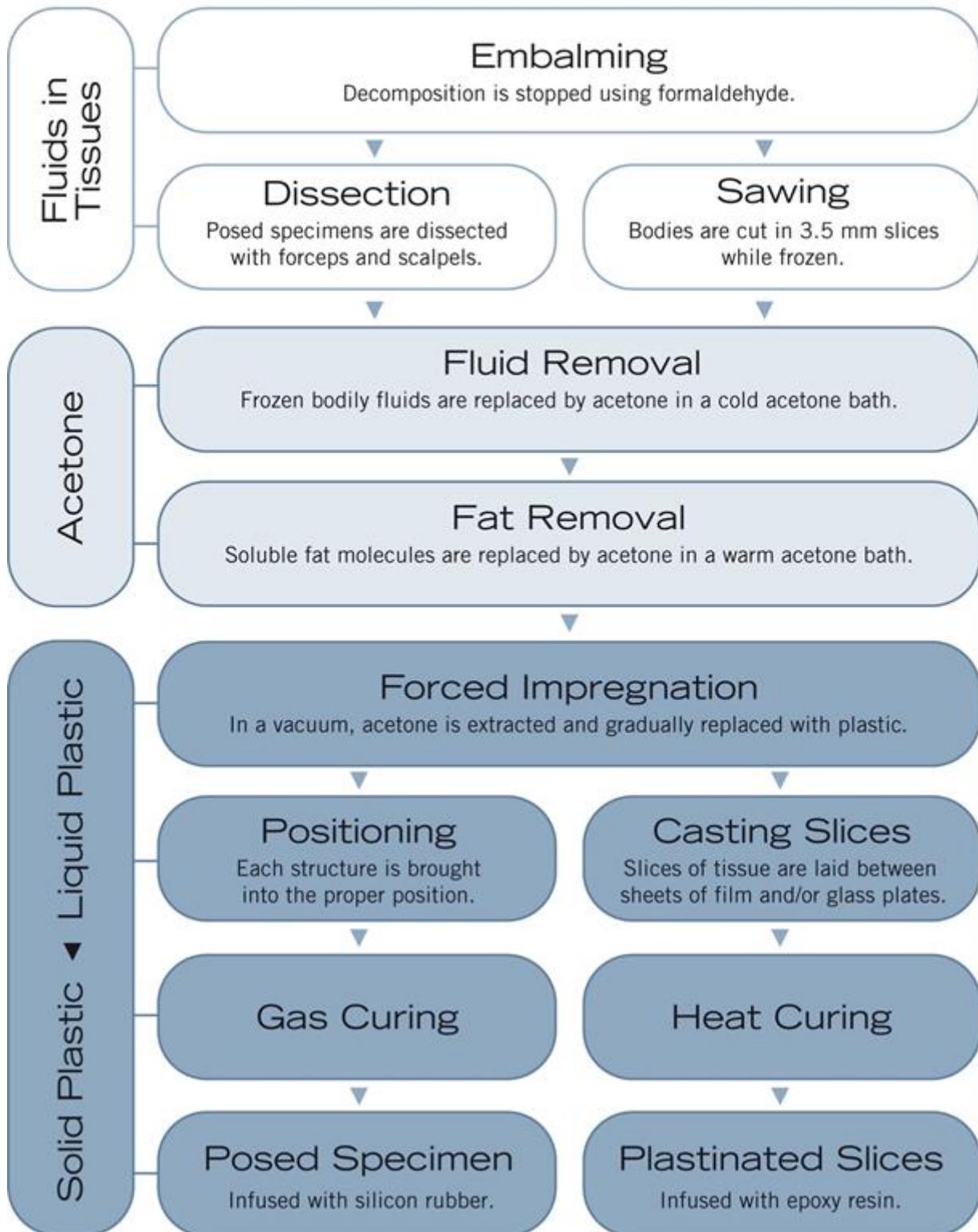
After vacuum impregnation, the body is positioned as desired. Every single anatomical structure is properly aligned and fixed with the help of wires, needles, clamps, and foam blocks.

### 5. Curing (Hardening)

In the final step, the specimen is hardened. Depending on the polymer used, this is done with gas, light, or heat. Dissection and Plastination of an entire body requires about 1,500 working hours and normally takes about one year to complete.



# The Plastination Process



## 6. Body donation for plastination

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The BODY WORLDS exhibitions are based on an established body donation program. Body donors specifically request that their bodies may be used in a public exhibition after their deaths. The body donor for Plastination is a testament that can be revoked at any time. In accordance with the agreement of body donors we give no information about the identity and cause of death of the donor. At the exhibitions the bodies themselves are the focus, not the associated personal information.

Excluding a small number of specimens acquired from anatomical collections and anatomy programs, the plastinated specimens on display in Gunther von Hagens' BODY WORLDS exhibitions stem from a unique body donation program established in Heidelberg, Germany in 1982, and later managed by the Institute for Plastination (IfP) in Heidelberg, established in 1993. Only some organs, fetuses and specific specimens that show unusual conditions come from old anatomical collections and morphological institutes

In August 2016, the *Institute for Plasination* had a donor roster of over 14.000 individuals, including 60 with a Dutch nationality.

	Count	Men	Women
Worldwide	<b>14.436</b>	6.266	8.170
Europe	<b>13.090</b>	5.858	7.232
North & South America and Canada	<b>1.346</b>	408	938
Netherlands	<b>57</b>	26	31
Belgium	<b>77</b>	29	48
Germany	<b>12.421</b>	5.562	6.859
Deceased	<b>1.789</b>	1.033	756

In August 2016, the Institute for Plastination registered 14.436 body donors.

Age	Count
< 20	0.2%
21 - 30	3%
31 - 40	7%
41 - 50	14%
51 - 60	25%
> 60	51%

The average age of body donors is 65 years.

### 6.1 Motives Body Donation

Many donors attach value to being useful in this way for other people. Their selfless donations allow us to gain unique insights into the human body. So far these insights were only reserved for doctors. Donors have different motives to take part in the donor program.

**89%** want to serve a good purpose

**75%** are fascinated by plastination

**53%** do not wish to burden their relatives with maintaining a grave

**51%** are excited about the exhibitions.

**50%** are uncomfortable with the thought of being cremated or buried

**44%** are fascinated by the idea of being preserved forever for future generations.

**31%** want to save burial costs

The poses of the plastinates are chosen with care and policy. The goal is an educational effect. Each shown pose demonstrates different anatomical features and accents. For example, athletic poses make it possible to show musculature system during sports. Through the poses, visitors can easily see the relationship between the plastinate and their own body.

## 7. Dr. Gunther von Hagens

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Gunther von Hagens is anatomist, inventor of Plastination and creator of the BODY WORLDS exhibitions.

### 7.1 His childhood

Von Hagens (christened Gunther Gerhard Liebchen) was born in 1945, in Alt-Skalden, Posen, then a part of Germany. To escape the imminent Russian occupation of their homeland, his parents and their son began a six-month trek west by horse wagon. The family lived briefly in Berlin and its vicinity, before finally settling in Greiz.

As a child, he was diagnosed with a rare bleeding disorder that restricted his activities and required long bouts of hospitalization that he says fostered in him a sense of alienation and nonconformity. At age 6, Von Hagens nearly died and was in intensive care for many months. His daily encounters with doctors and nurses left an indelible impression on him and ignited a desire in him to become a physician. He also showed an interest in science from an early age.

## 7.2 Education

In 1965, Von Hagens entered medical school at the University of Jena, south of Leipzig, and the birthplace of writers Schiller and Goethe. His unorthodox methods and flamboyant personality were remarkable enough to be noted on academic reports from the university.

*'Gunther Liebchen is a character who does not approach tasks systematically. These characteristic and his imaginativeness, that sometimes led him to misunderstood reality, occasionally led to the development of very unusual ways of working - but never in a manner that would have harmed the collective of his seminary group. On the contrary, his ways often encouraged his fellow students to critically review their own work.'*

While at the university, Von Hagens began to question Communism and Socialism and widened his knowledge of politics. He gathered information from Western news sources and participated in student protests against the invasion of Czechoslovakia by Warsaw Pact troops. On January 7 (1969) von Hagens attempted to cross the Czechoslovakian border into the freedom of Austria. He failed, but made a second attempt the very next day, at another location along the border. This time the authorities detained him.

## 7.3 Solitary confinement

Gunther von Hagens was arrested at age 23, extradited to East-Germany and imprisoned for two years. Von Hagens was viewed as a threat to the socialist way of life and therefore in need of rehabilitation and citizenship education. Forty-four years after his incarceration, Gunther von Hagens finds meaning and even redemption in his lost years.

*“ The deep friendships I formed there with other prisoners, and the terrible aspects of captivity that I was forced to overcome through my fantasy life, helped shape my sense of solidarity with others, my reliance on my own mind and body when denied freedom, and my capacity for endurance. All that I learned in prison helped me later in my life as a scientist.” – dr. Gunther von Hagens*

## 7.4 Invention Plastination

After West Germany purchased its freedom in 1970, Von Hagens enrolled at the University of Lubeck to complete his medical studies. Upon graduation in 1973, he took up residency at a hospital in

**BODY WORLDS: The Happiness Project** - Damrak 66, 1012 LM Amsterdam

Heligoland - a duty free island where the access to cheap liquor resulted in a substantial population of alcoholics.

A year later, after obtaining his medical degree, he joined the department of Anesthesiology and Emergency Medicine at Heidelberg University, where he came to a realization that his pensive mind was unsuitable for the tedious routines demanded of him. In June 1975, he married Dr. Cornelia von Hagens, a former classmate, and adopted her last name. The couple had three children, Rurik, Bera, and Tona.

In 1977, while serving as a resident and lecturer, he started his eighteen year career at the University's Institute of Pathology and Anatomy. In that year, Von Hagens invented Plastination, his groundbreaking technology for preserving anatomical specimens with the use of reactive polymers.

“I was looking at a collection of specimens embedded in plastic. It was the most advanced preservation technique then, where the specimens rested deep inside a transparent plastic block. I wondered why the plastic was poured and then cured around the specimens rather than pushed into the cells, which would stabilize the specimens from within and would literally allow you to grasp it.” – Dr Gunther von Hagens

## 7.5 Plastination to development

Gunther von Hagens filed his patent for Plastination and established BIODUR® Products, a business to market the essential ingredients and formulas for Plastination to 400 medical schools and universities worldwide

In 1992, Von Hagens married Dr. Angelina Whalley, a physician who serves as his Business Manager as well as the designer of the BODY WORLDS exhibitions. A year later, Dr. von Hagens founded the Heidelberg-based Institute for Plastination, which offers plastinated specimens for educational use and for the BODY WORLDS exhibitions.

In his effort to explore the limits of living in freedom, Dr. Von Hagens has made a concerted effort to travel and propagate his interests around the globe. He accepted a visiting professorship at Dalian Medical University in China in 1996, and became director of the Plastination Research Centre at the State Medical Academy in Bishkek, Kyrgyzstan.

In 2001, he founded a private company, the Von Hagens Dalian Plastination Ltd., in Dalian (China) which only plastinates animals. In 2004, Dr. Von Hagens began a visiting professorship at *the New York University College of Dentistry* (NYUCD), where he's in charge of changing the anatomy classes. Instead of using Formalin models, they're now using plastinates.

In 2006 he founded the *Gubener Plastinate GmbH* and opened the *Plastinarium* in Guben, Germany, a plastination workshop and anatomical exhibition open to the public . In 2012 he moved the plastination of animals to the facility in Guben and closed the company in Dalian.

## 8. Dr. Angelina Whalley

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Dr. Angelina Whalley is a creative and conceptual designer of the BODY WORLDS exhibitions. Dr. Whalley was born in 1960 in Hanover, Germany. She pursued Medical Studies at the Free University of Berlin and graduated from Ruprecht-Karls University in Heidelberg. In 1986, while a scientific employee at the University of Heidelberg and preparing for a career in surgery, she met anatomist Dr. Gunther von Hagens. Working together in the anatomy labs of Heidelberg University they forged a professional and personal bond and got married in 1992.

After five years in scientific employment at the Anatomical Institute of Heidelberg University, Dr. Whalley became the director of BIODUR® Products, a company that markets Plastination formulas and auxiliaries to more than 400 medical schools and universities worldwide.

In 1995, Dr. Whalley assumed her role in the BODY WORLDS exhibitions as its creative and conceptual designer. She discovered that she is good at making complex medical affairs understandable for the laity.

In 1997, Dr. Whalley became Director of the *Institute for Plastination* in Heidelberg. Dr. Whalley has promoted the exhibitions and made their presentation to nearly 47 million people worldwide possible

### 8.1 Comparative anatomy

Dr. Whalley also introduced the principle of comparative anatomy to the exhibitions, where diseased organs were placed next to healthy organs/

*“The body is so fragile and vulnerable, and yet so resilient and forgiving,” she says. “It has a memory so that what we do to it matters, but it also has a dynamic consciousness so that giving up unhealthy lifestyles or taking up exercise, even small changes, can make a difference”.* – Dr. Angelina Whalley

The arresting sight of the blackened lung of a cigarette smoker next to a healthy lung has prompted countless visitors to swear off smoking, while the diseased shrunken liver next to its healthy counterpart has prompted many to surrender alcohol.

She has embraced her unexpected career as an influential public health advocate. She has been able to educate far more people about health than she would ever have if she had been a surgeon.

## 9. Different BODY WORLDS exhibitions

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Gunther von Hagens' BODY WORLDS exhibitions have created a worldwide revolution. Never before has an exhibition changed the way people see themselves. Since the beginning of the exhibition series in Japan in 1995 nearly 47 million visitors in over 90 cities in Europe, America, Africa and Asia have seen the exhibition so far.

There are twelve BODY WORLDS exhibitions worldwide. While all of the BODY WORLDS exhibitions focus on general anatomy revealed through Plastination, each exhibition is being shown with dedicated themes. The exhibitions show a multitude of brand new plastinates and offer every visitor, even the ardent BODY WORLDS visitor, a fascinating exhibition experience.

## 10. Facts and Figures

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### Plastination

- Plastination was invented by Dr. Gunther von Hagens in 1977 at the University of Heidelberg, Germany, and has continuously been developed it since then.
- Plastination is a technique that stops the decomposition of the dead body and produces solid, odorless and durable anatomical specimens for scientific and medical training
- The production of a human whole body plastinate requires approximately 1.500 working hours.
- The world's tallest plastinate is an adult elephant, measuring 6 x 3,50 meters.

### BODY WORLDS

- The BODY WORLDS exhibitions were created by Dr. Gunther von Hagens.
- Dr. Angelina Whalley is the curator of the exhibitions.
- The ultimate goal of BODY WORLDS is health education.
- BODY WORLDS exhibitions are based on an established body donation program through which the body donors specifically request that their bodies be used in a public exhibition after their deaths.
- The first exhibition was held in Japan in 1995.
- Since then BODY WORLDS has been touring worldwide and visited over 130 cities in Europe, America, Africa and Asia.
- Nearly 47 million people have seen the BODY WORLDS exhibitions, over which over 20 million in Europe.
- Currently there are twelve BODY WORLDS exhibitions on display in America and Europe.

## 11. Schools

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A BODY WORLDS excursion is an unforgettable experience where your students will talk long about after! The breathtaking anatomical exhibition BODY WORLDS: *The Happiness Project* takes you and your students on a fascinating journey through the human body. Based on the preparation of real human bodies your class teaches all about anatomy, the impact of choices on our bodies and how we can be happier. An absolute must-see, that gives your students the chance to see their own body from the inside.

In preparation for, during and after the school visit to BODY WORLDS: *The Happiness Project*, there is teaching material developed for primary and secondary education. These materials can be downloaded free on this page <http://bodyworlds.nl/lesmateriaal/>.

For more practical information about a school visit to BODY WORLDS:  
<http://bodyworlds.nl/praktische-info-voor-docenten/>.

## 12. Frequently asked questions

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### How can I get to BODY WORLDS?

BODY WORLDS is located between Dam Square and Amsterdam Central Station and is very well served by public transport. There are several tram stops at the door (4, 9, 16, 24 and 25) and it is only a five minute walk from Amsterdam Central Station and two minutes from the Dam. Please visit our page for more information ([www.bodyworlds.nl/en/information](http://www.bodyworlds.nl/en/information)).

### How do I buy tickets?

It is advantageous to pre-buy tickets online. You order a ticket at the ticket page, available via [www.bodyworlds.nl/en/tickets-en](http://www.bodyworlds.nl/en/tickets-en).

### What are the costs of tickets at the office box?

The ticket prices vary online and at the office box. For the most current information, please visit our pricing page: [www.bodyworlds.nl/en/entrance-fees](http://www.bodyworlds.nl/en/entrance-fees).

### Can I buy tickets at the office box?

You can also buy tickets at the office box, but it is slightly cheaper to buy tickets online. [www.bodyworlds.nl/en/tickets-en](http://www.bodyworlds.nl/en/tickets-en).

### Does BODY WORLDS offer special school rates?

Yes, group or school tickets (10 people) can be booked for favorable rates. For questions and / or customization, please contact [amsterdam@bodyworlds.nl](mailto:amsterdam@bodyworlds.nl). For tickets or more information about a school visit: [www.bodyworlds.nl/body-worlds-excursie](http://www.bodyworlds.nl/body-worlds-excursie).

### Is the museum card valid for BODY WORLDS?

BODY WORLDS: *The Happiness Project* is not a museum, the museum card is not valid for the exhibition. However, you will receive a free audio guide by showing your museum card.

### What are the opening hours?

BODY WORLDS is open every day from 09:00 to 20:00 and on Saturdays until 22:00. The last admission is one hour before closing. On holidays and vacations, the exhibition is open from 9:00 to 21:00 and on Saturdays until 22:00.

**Is BODY WORLDS interesting for the visually impaired?**

There are guided tours for the visually impaired and blind. Visitors may, in exceptional circumstances, touch and hold the plastinates. For more information, please subscribe to our newsletter.

**Can I enter BODY WORLDS with a wheelchair?**

The exhibition is accessible for the disabled. However, the building has several floors which can be reached by using the elevator. Unfortunately, the basement of the old building is not accessible by lift.

**Can I bring my guide dog?**

Yes, guide dogs are allowed inside.

**Is the exhibition suitable for children?**

More than 40 million people, including young children worldwide have visited the BODY WORLDS exhibitions. For who want to visit BODY WORLDS with a group (school) children, there are resources available online to use the exhibition for educational purposes. For younger visitors there is a free treasure hunt available, which takes them on a journey through the human body.