



PULSMED PRESS KIT

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PRACTICAL INFORMATION

ABOUT US

HOSPITAL PULSMED

Pulsmed Private Hospital has been in the market since 1994. We offer a multi-specialist clinic and hospital providing services to patients from abroad in the area of: bariatrics - obesity treatment, plastic surgery, specialist diagnostics, stem cells applications in treatment, ophthalmology, orthopedics and stomatology.

Pulsmed Hospital has been for years providing medical services not only to local patients, but also to patients from abroad who seek high-quality medical services at competitive prices.

Our Medical Tourism Department employs workers who comprehensively deal with the organization of medical care and the patient's stay in Poland.

We offer modern medical procedures with the state-of-the-art medical technologies as well as effective methods that allow to shorten a period of treatment and reduce patient's suffering.

We employ a wide range of experienced specialist doctors and cooperate with highly-qualified specialists from the Medical University in Łódź, which is the biggest didactic centre in Poland and is recognized all over the world.

Pulsmed is one of three best centers in the world that deal with obesity treatment using minimally invasive methods (e.g. intra-gastric balloon). We provide training courses in this area for doctors from Poland and abroad.

We belong to the UEHP - European Union of Private Hospitals, which gathers private hospitals from the European Union. We

also work for the national health insurance company in Poland and we will provide services for system insurers from the EU countries after opening borders for medical services

REGISTER INFORMATION

address

Pulsmed Sp. z o.o.
ul. Polskiej Organizacji Wojskowej 26
90-248 Łódź

National Court Register Number
KRS 0000111734

BANK ACCOUNT

Pulsmed's bank account to which you shall make a payment for purchased medical services:

Bank Gospodarki Żywnościowej S.A.
Oddział Operacyjny w Łodzi
40 2030 0045 1110 0000 0140 1520

ABOUT US COOPERATION

PULSMED PRIVATE HOSPITAL PROVIDES MEDICAL SERVICES TO A GREAT NUMBER OF COMPANIES, THEY INCLUDE:

- ALLIANZ
- COMPENSA
- GENERALI
- ING
- SIGNAL IDUNA
- MEDICOVER
- METLIFE
- PZU
- CM DAMIANA
- LUX MED
- SWISSMED

Pulsmed Hospital has been cooperating with the national health insurance company - the National Health Fund since 1999 by providing medical services within the framework of national health insurance.

AS FAR AS PATIENTS FROM ABROAD ARE CONCERNED, PULSMED HOSPITAL COOPERATES, AMONG OTHERS, WITH:

- SMILE PROJECT - THE DENTAL CENTER

ABOUT US POLAND

YEAR OF ACCESSION TO THE EUROPEAN UNION:

2004

CAPITAL:

Warsaw (Warszawa)

AREA:312 679 km²**POPULATION:**

38,1 m

CURRENCY:

złoty (zł)

SCHENGEN ZONE:

A member state since 2007, visitors from the EU countries may enter Poland without border controls.

Poland joined the European Union in 2004. Poland is the country situated in the central part of Europe and it covers the area from the Baltic Sea in the north to the Tatra Mountains, which is the longest mountain chain in the Carpathian Mountains in the south. The prevailing landscape of Poland is lowland, however, it includes diverse natural characteristics.

**POLAND IS A MEMBER OF A NUMBER
OF INTERNATIONAL ORGANIZATIONS:**

NATO, the UN, WHO, MAE, OSCE, the Council of Europe.

The most popular cities in Poland are Kraków, Wrocław, Gdańsk, Warszawa, Poznań, Toruń. As far as recreation destinations are concerned the most favourite include the Masurian Lake District, the Baltic Sea, the Tatras, the Białowieża Forest, the Sudetes.

Poland was first recognized as a state in the second half of the 10th century, so it is more than a thousand years old. The group of the most prominent Poles embraces, among others: Joseph Conrad (Józef Korzeniowski), astronomer Mikołaj Kopernik, composer Fryderyk Chopin, scientist Maria Curie-Skłodowska, directors: Roman Polański and Krzysztof Kieślowski, a social activist Lech Wałęsa and the Pope Jan Paweł II. Traditional Polish cuisine includes, among others: red borsch, stuffed cabbage and dumplings.

Here you will find more about Poland:

www.polska.pl

ABOUT US

LODZ

Łódź is the third-largest city in Poland - the whole urban agglomeration has 1.1 million of inhabitants. It is located in the central part of the country. It is the biggest academic centre in Poland: it has 6 state academies and 22 private schools. Łódź is the city that combines cultural activity and new technologies industry as well as highly specialized services.

Located approximately 6 km of the Łódź city center there is the International Władysław Reymont Airport. The most important railway lines connecting the south and the north of the country intersect here. Two trans-European motorways A1 and A2 also intersect here.

More about Łódź and its attractions
you can find under this link:
www.turystyczna.lodz.pl



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ORGANIZATION DOJAZD

Pulsmed Hospital is located at the very heart of Łódź. Nearby our hospital (150 m) there is a central railway station - Łódź Fabryczna Station that offers fast connections e. g. to Warsaw and the airport in Warsaw.

The Łódź airport is located only 6 kilometers from the hospital. It is very easy to reach by public transport, taxi as well as transport provided by our clinic on a patient's request.

The exact location is presented on the map below.



ORGANIZATION FLIGHTS

ŁÓDŹ REYMONT AIRPORT

e-mail

informacja@airport.lodz.pl

www

<http://www.airport.lodz.pl>

The Łódź Airport offers regular flights to the European cities such as Dublin, East Midlands, Kopenhagen, Liverpool, London. The airport is located only 6 kilometers from Pulsmed Hospital, so it is within cheap and easy reach to our hospital.

If patients cannot use the Łódź airport, there is a possibility of using the Warsaw Chopin Airport. It takes about 1.5 hours to get to our hospital from there.



ORGANIZATION HOTELS

Below you will find the list of hotels in Łódź and their contact details.
We can book a hotel for you according to your choice.

- **AMBASADOR CENTRUM ŁÓDŹ******
al. Marszałka Józefa Piłsudskiego 29, 90-307 Łódź
tel.: (+48) 42 677 15 20
- **AMBASADOR*****
ul. Kosynierów Gdyńskich 8, 93-320 Łódź
tel.: (+48) 42 646 49 04, (+48) 42 646 42 68
- **ANDEL'S HOTEL ŁÓDŹ******
ul. Ogrodowa 17, 91-065 Łódź
tel.: (+48) 42 279 10 00
- **BOROWIECKI*****
ul. Kasprzaka 7/9, 91-078 Łódź
tel.: (+48) 42 288 01 00
- **CAMPANILE****
al. Piłsudskiego 27, 90-307 Łódź
tel.: (+48) 42 664 26 00
- **DARIA HOTEL****
ul. Studencka 2/4, 91-530 Łódź
tel.: (+48) 42 659 82 44
- **DOUBLE TREE BY HILTON******
Łąkowa 29, 90-554 Łódź
tel.: (+48) 42 208 80 00
- **FOCUS HOTEL*****
ul. Łąkowa 23/25, 90-554 Łódź
tel.: (+48) 42 637 12 00
- **GRAND HOTEL*****
ul. Piotrkowska 72, 90-102 Łódź
tel.: (+48) 42 633 99 20, (+48) 42 633 78 76
- **HOLIDAY INN HOTEL******
ul. Piotrkowska 229/231, 90-456 Łódź
tel.: (+48) 42 42 208 20 00
- **HOTEL MAZOWIECKI****
ul. 28 Pułku Strzelców Kaniowskich 53/57,
90-640 Łódź
tel.: (+48) 42 637 43 33
- **IBIS****
al. Piłsudskiego 11, 90-368 Łódź
tel.: (+48) 42 638 67 00
- **INESS HOTEL*****
ul. Wróblewskiego 19/23, 93-578 Łódź
tel.: (+48) 42 684 45 54, wew. 301
- **mHOTEL*****
ul. Św. Teresy 111, 91-222 Łódź
tel.: (+48) 42 652 99 90
- **NOVOTEL ŁÓDŹ CENTRUM******
al. Piłsudskiego 11a, 90-368 Łódź
tel.: (+48) 42 254 39 00
- **POLONIA PALAST****
ul. Narutowicza 38, 90-135 Łódź
tel.: (+48) 42 632 87 73
- **QUBUS HOTEL*****
al. Mickiewicza 7, 90-443 Łódź
tel.: (+48) 42 275 51 00
- **REYMONT*****
ul. Legionów 81, 91-071 Łódź
tel.: (+48) 42 633 80 23
- **SAVOY****
ul. Traugutta 6, 90-107 Łódź
tel.: (+48) 42 632 93 60
- **ŚWIATOWIT*****
al. Kościuszki 68, 90-432 Łódź
tel.: (+48) 42 636 30 44
- **TOBACO HOTEL*****
ul. Kopernika 64, 90-533 Łódź
tel.: (+48) 42 207 07 07

ORGANIZATION

TOURIST ATTRACTIONS

Piotrkowska Street is the most representative street of Łódź. It is the longest shopping street in Europe, its length is 4.2 km and it runs longitudinally in a straight line through the city. From the beginning Piotrkowska street was a central axis, around which the city expanded. Initially, the street was mainly a communication route, but with time it became the city's signature, a center of entertainment and commerce. Currently the street has been changed into a promenade, along which 100 pubs and restaurants are situated. You can ride a rickshaw or take the "trambus" and admire beautiful facades of the old houses located along the street.

"The Priest's Mill" (Księży Młyn) - it is a district that was built in the period of the boom of industrial Łódź in the 19th century and survived almost unchanged. Karol W. Scheibler - one of the biggest manufacturers in Lodz, built this industrial and residential complex. Its urban arrangement and architecture were modeled on English industrial settlements. Księży Młyn is composed of factory buildings, a housing estate, mansions of the owners and villas of directors with gardens as well as streets and railway sidings, a school, two hospitals, a fire house, a gas plant and a factory club.

Manufaktura - it is one of the biggest centers of entertainment, culture and commerce in Europe. It covers the area of 20 hectares of urban space. It is a unique revitalization project on a global scale, combining modern forms and architecture with the restored 19th century buildings of the former factory of Izrael Poznański. The complex includes a square - a venue of festivals, concerts and outdoor events, Muzeum Fabryki (Museum of the Factory), Muzeum Sztuki ms2 (ms2 Museum of Art), restaurants, over 300 shops, discos, a bowling alley, a climbing wall, hotel, theater and a multiplex cinema.

Museum of Canal „Dętka” is an underground, oval water tank, built in 1926 in order to wash the sewage system in the city center. It was designed by William H. Lindley, a British engineer. The corridor of the canal, made of red brick, has a length of 142 meters and is 178 centimeters high and 1.5 meters wide. Visitors to the museum can see archive photographs and documents relating to the construction of canals in Łódź.

Izrael Poznański Palace is the biggest residence of factory owners in Poland. The architecture is a combination of various style, e.g. art nouveau and neo-baroque. The palace houses the Historical Museum of the City of Łódź where one can learn about the history and culture of the 19th century industrial metropolis and about the prominent artists living and working in Łódź: Wł. Reymont, J. Tuwim, J. Kosiński, K. Dedecius, A. Tansman and z A. Rubinstein.

The White Factory (Biała Fabryka) - it was built between 1835-1839. In the complex one can see the tools, textile machinery, historical and contemporary textiles, as well as clothing. The buildings are classical style and there was the first mechanical spinning-mill in Łódź, Within the complex, there is Open-Air Museum of the Łódź Wooden Architecture (Skansen Łódzkiej Architektury Drewnianej) presenting examples of the city's buildings in the early 19th century.

PLASTIC SURGERY

PLASTIC SURGERY

ABDOMINOPLASTY

Abdominoplasty is a cosmetic surgery procedure performed to remove excess loose skin and fat from middle and lower abdomen, which results also in tightening of abdominal muscles. Abdomen is flattened and shows proper muscle tension. As pregnancy and a sudden weight loss can cause muscle weakness and visible skin slacking, abdominoplasty can effectively improve and correct abdominal walls.

BEFORE TREATMENT

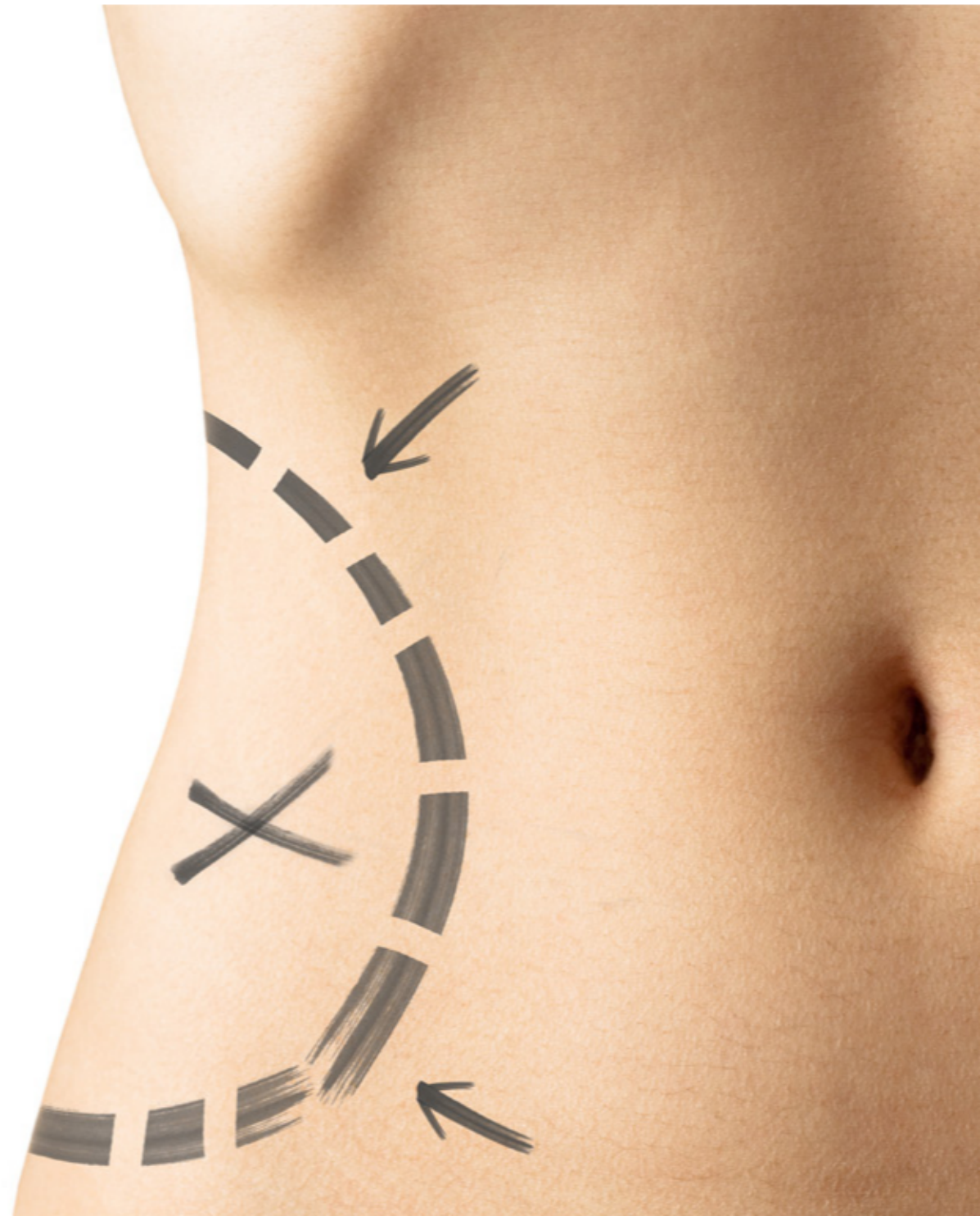
It is necessary to consult a doctor who will inform a patient about the procedure, treatment and additional tests. Patient should undergo laboratory tests such as blood morphology, blood group, bleeding and coagulation time tests as well as EKG.

CONTRAINDICATIONS

Contraindications to perform the procedure is significant and progressive excess weight and obesity. Women who plan pregnancy should not consider this type of treatment. Absolute contraindications are dyspnoea, coagulation disorders, diabetes, unstable blood pressure, hyperthyroidism and suppurative skin infections.

PROCEDURE AND RECOVERY

Procedure is usually performed under general anesthesia but a doctor can decide to apply local anesthesia after talking to a patient. Patient must stay in hospital for about four days. Full recovery usually takes from a few weeks to several months.



PLASTIC SURGERY

BREAST AUGMENTATION

The aim of breast augmentation is not only to increase breast size but also to lift it and to shape properly. Breast shape depends on a lot factors including a woman's age or race. Not many women possess ideal and commonly admired breast. Majority of women complain that it is too small or too big. Thus, more and more women resort to plastic surgery to improve breast size and shape.

After the surgery most patients feel more attractive and feminine. Their self-esteem is boosted and they feel better mentally. The bond with a partner and other people is strengthened - they show a more positive attitude to life.

BEFORE TREATMENT

It is necessary to consult a doctor who will inform a patient about the procedure and treatment. Patient should also undergo additional laboratory tests such as blood morphology, blood group, bleeding and coagulation time tests, EKG and breast ultrasound or breast mammography.

CONTRAINDICATIONS

Absolute contraindications for the procedure include unstable blood pressure, diabetes, coagulation disorders, dyspnoea and suppurative infection of chest skin.

POSSIBLE COMPLICATIONS

The complications after surgery can be hemorrhages, infections and hard-to-heal wounds . Good cooperation with a doctor usually helps to avoid serious complications

PROCEDURE AND RECOVERY

Procedure is performed under general anesthesia Patient must stay in hospital for about two days. Full recovery takes about 2-3 months.



PLASTIC SURGERY

EARLOBE CORRECTION

This procedure aims to improve undesirable appearance of ears through modelling of undeveloped elements of cartilage and proper alignment of earlobe.

Ear surgery is performed to improve deformation or anomalous earlobe appearance. The most common reason for the surgery is correction of protruding ears. This imperfection is noticed soon after childbirth, thus majority of patients are children. The procedure can be carried out in children at the age of 8 when earlobes are fully developed and procedure does not impair their further development.

BEFORE TREATMENT

It is necessary to consult a specialist who will inform a patient about the procedure and treatment. Patient should also undergo additional laboratory tests such as blood morphology, blood group, bleeding and coagulation time tests.

CONTRAINDICATIONS

There are no explicit contraindications to perform ear correction surgery. The only obstacle can be unstable blood pressure, coagulation disorders or inflammation in the area subjected to treatment.

POSSIBLE COMPLICATIONS

The complications after ear correction are sometimes bleeding or infections. In cases of plastic surgery good cooperation with a doctor is indispensable in order to avoid serious complications and promptly cure the slighter ones.

PROCEDURE AND RECOVERY

Procedure is usually performed under local anesthesia. Patient must stay in hospital maximum one day. Right after the surgery pain and swelling of ear lobes can be observed and full recovery takes about 3 weeks. Patient is provided with a band that must be worn (only during sleep) for three weeks after suture and bandage removal, which is usually done on the ninth day after the procedure.

PLASTIC SURGERY

EYELID SURGERY

The aim of eyelid surgery is the removal of excessive skin from upper and lower lids and so-called "under-eye bags".

For most of us the appearance matters greatly, both in private and professional life. By boosting attractiveness we increase our chances of success. The procedure, however, is performed not only for cosmetic reasons, but it is sometimes necessary to improve lid functioning.

BEFORE TREATMENT

It is necessary to visit a doctor who will inform a patient about the procedure and treatment.

Before the procedure a patient has to undergo additional laboratory tests such as blood morphology, blood group and bleeding and coagulation time tests.

CONTRAINDICATIONS

There are no explicit contraindications to perform the procedure. The only obstacle can be dyspnoea, blood coagulation disorders, diabetes, unstable blood pressure, hyperthyroidism, suppurative inflammation of skin and anatomical eye construction.

POSSIBLE COMPLICATIONS

Although complications are very rare, inability to close eye (lagophthalmos) or lower lid ectropion (when eyelid margin is turned away from its normal position) can be observed. In such cases good cooperation with a doctor is indispensable in order to avoid more serious complications and promptly cure the slighter ones.

PROCEDURE AND RECOVERY

Procedure is performed under local anesthesia. Patient must stay in hospital maximum one day. Swelling and lividity can be observed for up to two weeks. Full recovery takes about a month.

PLASTIC SURGERY FACE LIFTING

The aim of the procedure is to remove excess skin and folds from the lower area of face (face lift). The procedure helps to refresh and rejuvenate face appearance.

Our face usually portrays first visible signs of aging that leads to wrinkles. In order to prevent it we often use expensive creams and other cosmetics whose effects are only local and short-term. Thus, it is often necessary to ask a plastic surgeon for help.

BEFORE TREATMENT

It is necessary to consult a specialist who will inform a patient about the procedure and treatment.

Before the procedure a patient has to undergo additional laboratory tests such as blood morphology, blood group, bleeding and coagulation time tests as well as EKG.

CONTRAINDICATIONS

There are no explicit contraindications to perform the procedure. The only obstacle can be diabetes, anemia, blood pressure disorders, hyperthyroidism, suppurative inflammation of sinuses and face.

POSSIBLE COMPLICATIONS

The most serious complication, which is very rare, is facial paralysis and mimic muscles paralysis. The other rare complications are hematomas and infections that usually result from inadequate adherence to doctor's recommendations. In cases of plastic surgery good cooperation with a doctor is indispensable in order to avoid

serious complications and promptly cure the slighter ones.

PROCEDURE AND RECOVERY

Procedure is usually performed under general anesthesia but a doctor can decide to apply local anesthesia after talking to a patient. Patient must stay in hospital maximum two days. Full recovery takes about 2-3 weeks.



PLASTIC SURGERY

GYNECOMASTIA

Gynecomastia is a term derived from the Greek words „gyne“ meaning „woman“ and „mastos“ meaning „breasts“, which literally means „female breasts“. It can be observed among young boys around the time of puberty as well among male adults during andropause. Research shows that gynecomastia results from excessive growth of fat tissue or genetic predispositions, endocrinological predispositions or even alcohol-induced cirrhosis.

Gynecomastia surgery is appreciated by men for whom enlarged breast causes mental and aesthetic discomfort. It must be noted, however, that the surgery will not make one's chest ideal. A patient must seriously consider his expectations and consult a surgeon. Their cooperation will help a patient to make a right decision and achieve satisfaction with the results of procedure.

BEFORE TREATMENT

It is necessary to consult a doctor who will inform a patient about the procedure and treatment. Patient has to undergo additional laboratory tests such as blood morphology, blood group, bleeding and coagulation time tests. Moreover, consultation with endocrinologist and ultrasound test are required.

CONTRAINDICATIONS

Contraindications for the procedure include unstable diabetes, infections, skin injuries, bleeding and fluid collection in the area subjected to procedure.

POSSIBLE COMPLICATIONS

The complications are relatively rare, they may include hematomas or hypertrophic scarring in the area subjected to procedure. More frequent complications are loss of sensation in a nipple area or its numbness. Good cooperation with a doctor usually helps to avoid serious complications

PROCEDURE AND RECOVERY

Procedure is performed under general or local anesthesia, a doctor chooses the most appropriate type. Patient must stay in hospital maximum one day. Full recovery takes about a month.

PLASTIC SURGERY

NOSE RESHAPING SURGERY

The most common reasons for nose reshaping surgery are congenial or after trauma deviations of nasal septum and patient's dissatisfaction with a nose shape. Nose deformities can impair breathing, which can result in sleepiness, tiredness and headaches. Those symptoms usually disappear soon after surgery, which brings a substantial relief to a patient.

Moreover, the nose is a central part of the face and it determines what the face looks like. For people who do not accept their nose size or shape, plastic surgery is of crucial psychological importance. After the surgery patients feel more confident, better and their self-esteem increases.

BEFORE TREATMENT

It is necessary to consult a specialist who will inform a patient about the procedure and treatment. Patient also has to undergo additional laboratory tests such as blood morphology, blood group, bleeding and coagulation time tests as well as EKG. In some cases a doctor recommends a radiography of nose and sinuses

CONTRAINDICATIONS

There are no explicit contraindications to perform the procedure of nose reshaping. The only obstacle can be diabetes, anemia, unstable blood pressure, suppurative inflammation of sinuses and face.

POSSIBLE COMPLICATIONS

The complications after nose reshaping surgery can be bleeding, hemorrhages, infections and nose suppuration. Less frequent complications are hypertrophied scars and a slight nose asymmetry.

PROCEDURE AND RECOVERY

Procedure is usually carried out under general anesthesia Patient must stay in hospital for about two days. After the surgery the nose is stabilized with a gypsum plaster and gas setons with ointment are inserted into nasal passages. Full recovery takes about 2-3 weeks. Pain usually goes away after 10 days. Due to swelling final results of treatment are visible after several weeks.

PLASTIC SURGERY

SCAR REMOVAL

Scars result from the biological process of wound repair and are a natural part of healing process. Some are less noticeable, but some can be really unaesthetic. Sometimes scars can result in physical disability or growth disorders of specific parts of body.

There are a lot of factors of a healing process which influence the way a scar looks, such as wound suppuration, hematomas, suture release or genetic predisposition - keloid tendency.

In case of smaller scars creams and ointments in combination with appropriate medication or massage in a scar area are sufficient methods of treatment. However, in case of bigger scars plastic surgery is the only effective method. The aim of the procedure is to improve the look of scars, not their complete removal which is often impossible.

BEFORE TREATMENT

It is essential to visit a doctor who will inform a patient about the procedure, treatment and possible risks.

CONTRAINDICATIONS

There are no explicit contraindications to perform the procedure. The only obstacle can be diabetes, anemia, blood pressure disorders, hyperthyroidism, suppurative inflammation in the area subjected to treatment.

POSSIBLE COMPLICATIONS

Complications are very rare. What can be observed after complicated procedures are hematomas, skin growth or a slight infection. Good cooperation with a doctor usually significantly reduces the incidence of complications. The course of the whole treatment process is very important, from the very first visit, through the course of treatment to the period after surgery and recovery, which are crucial to achieve positive effects for a patient, both from an aesthetic and mental angle.

PROCEDURE AND RECOVERY

Procedure is performed under local or general anesthesia. A doctor decides which type of anesthesia should be used after talking to patient. Period of recovery after complicated procedures can take up to several weeks. Final results of scar correction should be expected after at least one year.

PLASTIC SURGERY

VASER LIPO LIPOSUCTION

VASER LIPO® is a new generation of an ultrasound-assisted liposuction system. Vaser Lipo or Liposelection uses ultrasonic technology that is tissue-selective. Ultrasound energy targets unwanted fat while surrounding tissues such as nerves, blood vessels, connective tissue are left intact, which results in minor trauma during the procedure and promotes rapid recovery, better control of body shaping and fast return to normal life.

Vaser Lipo does not only offer removal of fat deposits but it helps to “sculpt” a new slimmer silhouette characteristic of a fit body, both female and male.

The greatest advantage of this state-of-the art technology is that it can be performed under local anesthesia, which greatly minimizes risk of complications and hospitalization is not required.

VASER LIPO PROCEDURE:

- 1.** Tumescence fluid is injected into the treatment area.
- 2.** High frequency vibrations delivered by Vaser ultrasonic probe into the fat layer selectively target and emulsify fat.
- 3.** Emulsified fat is removed via specially designed suction cannulas.

WITH VASER LIPO ONE CAN GET RID OF UNWANTED FAT FROM :

- waist
- thighs
- inner side of knees
- hips
- back
- male breast
- chin

CONTRAINDICATIONS FOR TREATMENT:

- blood coagulation disorders
- diabetes
- autoimmune disorders
- pregnancy and lactation
- acute inflammatory diseases
- unstabilized chronic diseases

ORTHOPEDISC

ORTHOPEDISC CARPAL TUNNEL SYNDROME

Carpal tunnel syndrome is a condition resulting from the compression of the median nerve that is due to rheumatoid arthritis or environmental factors (e.g. long-lasting work with a computer mouse). It can be also caused by edema of the median nerve, constriction of wrist tunnel resulting from degenerative or post-traumatic changes. The main symptoms of carpal tunnel syndrome include numbness of wrist area, gradual atrophy of the thenar muscles, index and middle finger tingling, loss of grip strength, difficulty in fist clenching, incremental stiffness of hand. These symptoms are especially severe at night and exacerbate with a raised arm, after lowering they slowly disappear. Tingling is usually observed in the morning and gradually disappears after moving a hand. Frequently, carpal tunnel syndrome is accompanied with an ulnar nerve blocking i.e. namely the nerve groove and the Guyon's canal in the wrist. It is so-called the Guyon's Canal Syndrome. People who experience compression of one nerve are also prone to the compression of the other one, however, it does not need to happen simultaneously. Diagnosis is possible after EMG testing that helps to determine which nerve is damaged, on what level and to what extent. The treatment of carpal tunnel syndrome can be conservative or surgical. Conservative therapy includes B6 vitamin administration and physiotherapy. Surgical treatment involves cutting flexor retinaculum and releasing the nerve.

Stem cell therapy provided by Pulsmed Hospital is an innovative method that brings spectacular effects. It is a chance for the regeneration of an afflicted joint and the improvement of its functioning. ADSC stem cells derived from a patient's own adipose tissue and subsequently administered into an afflicted area bring about joint regeneration and nourishing. Pain decreases significantly and joint mobility and functioning improve.



ORTHOPEDISC

DEGENERATIVE DISEASES OF OSTEOARTICULAR SYSTEM

OSTEOARTHRITIS /DEGENERATIVE JOINT DISEASE/, BONE AND JOINT INFLAMMATION, TENDON AND LIGAMENT INJURIES.

The method of deriving stem cells from a patient's own adipose tissue is a breakthrough in cell therapy and regenerative medicine. It can significantly support the treatment of numerous diseases. Primal and stem cells tend to be applied more and more often in the treatment of degenerative joint diseases in orthopedics, tendon and ligament injuries in sports medicine, reconstructive and plastic surgery as well as aesthetic medicine.

Stem cells can be found in every human body but their amount decreases with age. They play a reconstructive role in our body. They circulate throughout the body with blood and get activated in damaged tissues and cells. Unfortunately, our joints, tendons and meniscuses are parts of the body with a poor blood supply and they cannot repair themselves.

OSTEOARTHRITIS /OA/ is a process of degradation of articular cartilage and subchondral bone, the symptoms of which include joint pain and stiffness. It is often a consequence of various inflammatory conditions - connected with rheumatoid origin, injuries, minor injuries, as well as the aging process of the body. It results in a significant physical impairment, limitation of activities and quality of life, which inevitably result in obesity and cardiovascular diseases. Treatment generally involves a combination of exercise, viscosupplementation, anti-inflammatory and analgesic drugs, however, it provides only limited relief.

The latest research shows that adult stem cells derived from adipose tissue /ADSCs/ can differentiate into cartilages and bones, which offers a possibility of osteoarthritis treatment (Diekman et al. 2010; Kern et al. 2006). Cartilage repair has been proved on animal models (Dragoo et al. 2007; Cui et al. 2009). The research conducted on human bodies also showed its safety and effectiveness in phase I and II of clinical trial in two-year observation (Garcia-Olmo et al. 2005; Garcia-Olmo et al. 2008 and 2009). Adipose-derived stem cells combined with PRP that are transferred additionally induce articular cartilage and tissue regeneration and repair and significantly diminish inflammatory condition and joint pain. Repair process takes a few months but some patients observe an improvement even within a few weeks. In tendon and ligament treatment /e.g. tennis elbow/ stem and regenerative cells are transferred locally into the area of damage.

ADI STEM METHOD used in Pulsmed Hospital in the treatment of degenerative joint diseases and tendon and ligament injuries involves harvesting about 50cc of adipose tissue from waist area, separating stem and regenerative cells, their activation with platelet-rich-plasma PRP and monochromatic LED light /Adi Light 2/, finally transfer directly into a damaged joint or ligament area. Sometimes, additional transfer of ADRC through intravenous infusion is recommended. The procedure is performed within one-day hospitalization. Harvesting of adipose tissue /liposuction/ is carried out under local and intravenous anesthesia (tumescent technique).

1. harvesting of adipose tissue
2. separation of stem cells /ADSC/

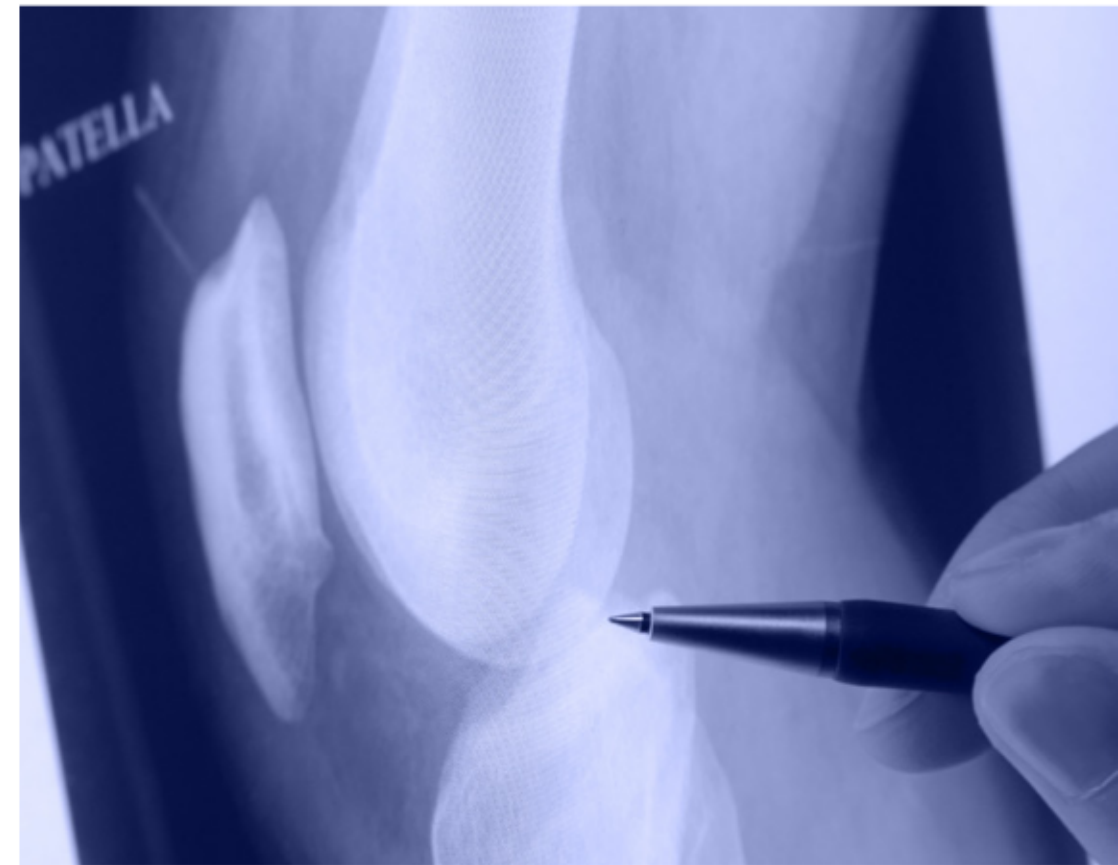
ORTHOPEDISC DEGENERATIVE DISEASES OF OSTEOARTICULAR SYSTEM

3. Adi Light photo-activation

4. injection into joints

All procedures are performed by experienced specialist doctors who possess international certification licensing them to apply Adi Stem technology. Dr Zbigniew Kowalczyk belongs to the international group of researchers, doctors and biotechnologists who deal with the studies and implementation of standards of stem and regenerative cells therapies - Global Stem Cells Network /GSCN/

Pulsmed Hospital is the first centre in Poland that belongs to the international Network of Hospitals and Clinics which deal with the research and application of ADSC cells - Global Stem Cells Network /GSCN/.



ORTHOPEDISC ELBOW JOINT

ELBOW JOINT IS ONE OF THE MOST COMPLEX JOINTS. ITS STRUCTURE IS VERY COMPLICATED AND IT IS ACTUALLY THREE JOINTS:

- humeroulnar joint
- humeroradial joint
- superior radioulnar joint

It is covered by joint capsule that protects it against dislocation.

Elbow joint degenerative disease, similar to other joints, is characterized by structural changes in the joint surface as well as within the area of soft tissues. Its most common cause are post-traumatic injuries of articular cartilage and joint resulting from elbow tip fracture of distal humeral epiphysis or rheumatoid diseases.

In the course of disease some spurs appear (osteophytes) that squeeze ulnar nerve, which may lead to muscle paresis of hand and finger flexors.

The treatment of elbow joint degenerative changes comprises procedures similar to the cases of other joints. When they are not very extended and bring slight pain, less invasive methods can be applied, such as physiotherapy. The treatment can be also aided with pharmacology and it is recommended to keep an afflicted joint at rest.

Stem cells therapy offered by Pulsmed Hospital is an innovative method of treatment of degenerative joint diseases. Cells harvested from a patient's own adipose tissue and administered directly into the joint facilitate the regeneration of damaged areas, reduce pain and increase a joint mobility.

ORTHOPEDISC GOLFER'S ELBOW

Golfer's elbow i.e. an inflammatory condition of the medial epicondyle of the elbow that results from damage of round pronator muscle insertion or radial flexor muscle of wrist. Golfer's elbow can be developed in patients of all ages, but it is mostly observed in patients between 40-60 years old. This is the result of elbow strain which leads to inflammation evoking pain. People prone to the condition include golf players, tennis players as well as people working a lot at the computer, mechanics and dentists.

The first symptoms of golfer's elbow include pain at certain movements but subsequently it can appear also while resting. It is accompanied by general muscle weakness in the whole limb, numbness and stiffness. Pharmacological treatment includes anti-inflammatory and analgesic medication. Physiotherapy, cryotherapy, immobilization in plaster cast or orthosis are often recommended. Exercises are also of crucial importance as they improve joint mobility.

Therapies with ADSC stem cells offered by Pulsmed Hospital provide vast opportunities for quick recovery. Stem cells derived from a patient's own adipose tissue and subsequently administered into an afflicted area bring about its regeneration, nourishing and improve mobility. Pain disappears and comfort of life significantly improves.



ORTHOPEDISC KNEE JOINT

Degenerative changes in a knee joint appear due to the fact that its tissues too early wear out. These changes embrace both joint cartilage, joint soft structures, ligaments, tendons and joint capsules. First degeneration appears in the area of back part of knee-cap as a result of squeezing while bending a knee. The structure of joint cartilage is damaged, it loses elasticity and even breaks, which results in the loss of joint structure. In the course of time some spurs may appear and they bring about damage in knee-cap structure and pain.

The main cause of knee joint degenerative diseases is the process of organism aging. What also contributes to this problem are various injuries occurring during our life as well as inborn joint deformations; supination, knock-knee or inborn knee dysplasia.

The first symptoms of degenerative joint diseases are often misleading and do not worry patients. Fatigue that we feel in legs as a result of weakness is usually not associated with this condition. Articular cartilage that is the first to undergo changes is not innervated and thus pain appears quite late. It can occur while walking and disappear while resting. This pain comes from joint soft structures i.e. overstretched ligaments, muscles or damaged joint capsule. In the course of knee joint degenerative disease inflammatory conditions appear frequently as a result of effusions, which evokes changes in the joint surface.

Preventive treatment or treatment of knee joint degenerative disorders often includes changing a way of life and taking up physical activity. If these do not bring expected effects, physiotherapy procedures, pharmacological treatment and even surgical treatment can be applied.

Treatment with ADSC stem cells used in Pulsmed Hospital offers a wide range of opportunities for regeneration of knee joint damaged by the disease. It facilitates joint functioning, reduces pain and improves a comfort and quality of life.

ORTHOPEDISC MUSCLE AND TENDON INJURIES

Muscle, tendon or ligament injuries most frequently occur while practicing different kinds of sport disciplines. However, it is not the only case. Similar injuries can happen in the course of everyday life e.g. an unfortunate fall, stumble or tread. It must be noted that soft tissue injuries also include ligament or joint capsule injuries, not only muscle and tendon injuries. In colloquial speech we often talk about muscle strain, tear, sprain or bruising.

Definitely more serious injuries are those in which we observe the tear in the continuity of tissues as they often require a surgical intervention, and what follows a longer recovery period. All damaged soft tissues react in a very similar way and give similar symptoms.

The first common symptoms include acute inflammation and subsequent swelling, a rise in temperature in the injured area and the whole body. They are often accompanied by a severe pain in the damaged area that increases while moving an injured limb. This phase takes about 7 days after the injury.

The second phase of soft tissue regeneration is the proliferation phase which takes about 3 weeks after the injury. It involves the generation of cells that are responsible for reconstruction of damaged tissues.

The last phase is a so-called remodeling phase and it involves regeneration and nutrition of damaged tissues.

The procedure that must be implemented immediately after the injury involves quite simple steps. The injured part of the body

should be protected, e.g. immobilized with an elastic band or a plaster cast. It is also recommended to put ice on injured area in order to reduce swelling and ache. The limb must be also properly placed i.e. higher than normal in order to prevent swelling and reduce the risk of hematomas.

After removing an immobilizing bandage patients must undergo a series of procedures aiming at improvement of their physical condition.

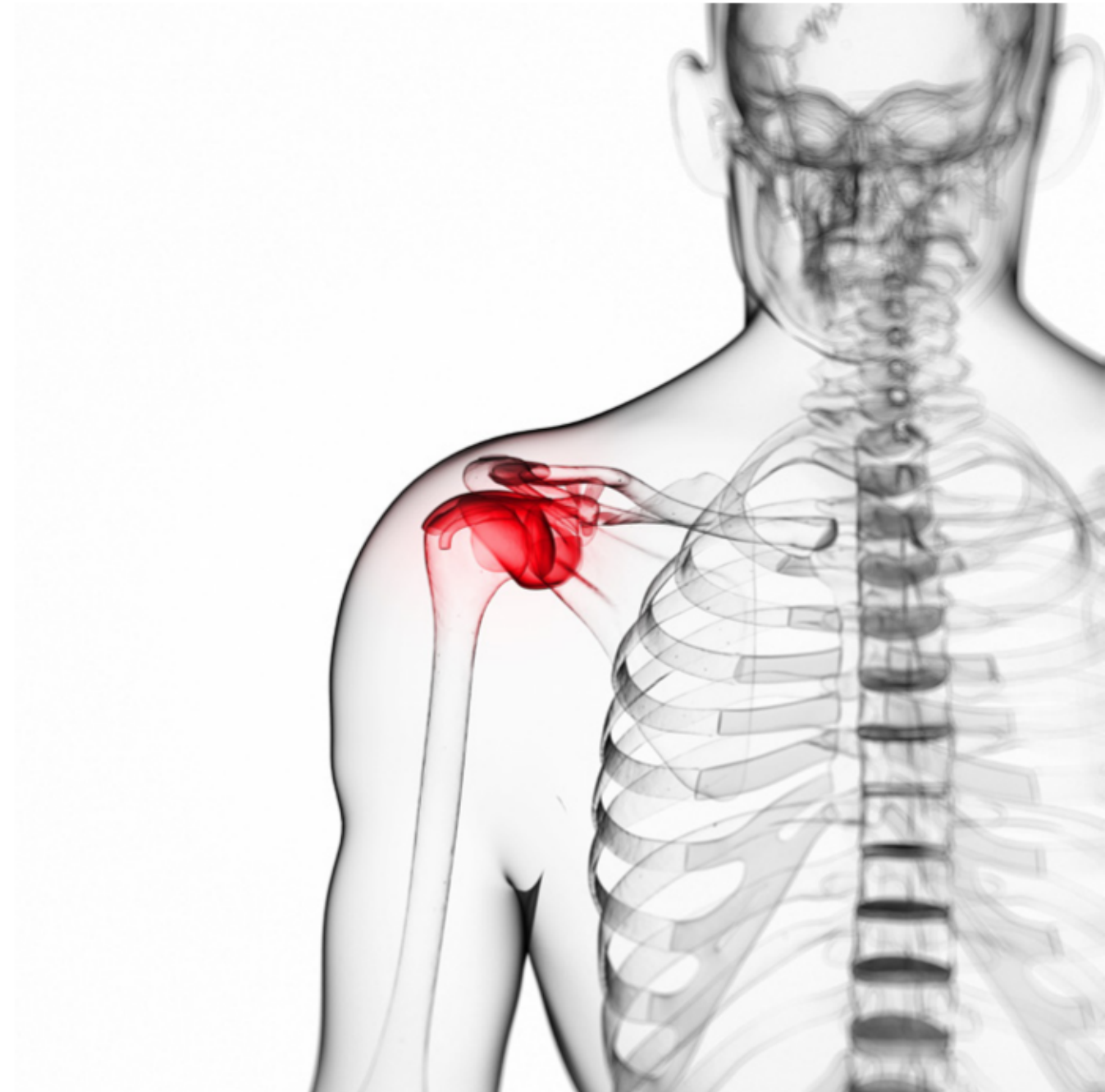
Pulsmed Hospital offers an innovative method of treatment of such injuries using ADSC stem cells that are harvested from a patient's own adipose tissue. Direct administration of stem cells into an injured area facilitates its fast regeneration. This type of treatment is comfortable for a patient who quickly recovers and returns to a normal life.

ORTHOPEDISC SHOULDER JOINT

Degenerative changes of shoulder joint are the most common cause of shoulder pain. They appear in the course of organism aging, which leads to gradual damage of articular cartilage and rubbing out of joint surface. Its consequence is pain that appears with motion. Degenerative changes of shoulder joint are mostly observed in blue-collar workers who permanently use a lot of strength. Pain that appears at the moment of movement limits joint mobility and as a result it causes joint stiffness. The biggest problem are shoulder rotation movements and abduction movements. Pain can radiate into the whole upper limb and induce its general weakness.

There are a lot of causes that bring about degenerative changes in shoulder joint. The most common include injuries that happened during our life e.g. shoulder dislocation, fractures, damage within soft structures of shoulder girdle. There are two ways of treating degenerative changes of shoulder joint. In minor cases physiotherapy and pharmacology are applied. In the case of extended changes less invasive methods do not bring desired effects and arthroscopy of shoulder joint, which is currently one of the most popular methods, is performed.

Pulsmed Hospital, which wishes to meet patients' demands, offers therapies using ADSC - stem cells derived from a patient's adipose tissue to regenerate a damaged shoulder. This is a minimally invasive procedure that brings spectacular effects. Stem cells applied directly into a joint bring about its regeneration, smooth joint structure and significantly improve its mobility. This leads to pain reduction and enhancement of a patient's comfort of life.



ORTHOPEDISC SPINE AND JOINT PAIN SYNDROMES

Spine pain syndrome or joint pain syndrome can be also called overuse syndrome. This is one of the most frequent causes of pain. Its characteristic feature is that pain lasts for a long time, what only changes is its intensity. These pains most often affect cervical vertebral column and lumbar spine. It is a disease classification that is strictly connected with pathology of zygapophyseal joints.

Pain that accompanies these disorders is usually changeable and occurs a few times a month. What is also observed then is excessive prevertebral muscle spasm. The characteristic feature of this kind of pain is that its intensity depends on our position. It is definitely more severe when we lie on the back and it diminishes when we lie on the abdomen or on our side with bent legs. Another characteristic is that these pains radiate very often to the buttock or a back part of thigh. As it comes to cervical vertebral column, these pains occur in the neck and shoulder girdle area. There are numerous causes of spine pain and overuse syndromes. They include osteoarthritis, non-physiological curvatures of the spine (loss of physiological lordosis or increased lordosis or kyphosis), long-lasting pressure on certain segments of the spine as well as post-traumatic and post-inflammatory disorders. Another very frequent cause of pain and overuse syndromes are, so-called osteophytes (sclerotisation of edges). Spine and joint pain syndromes are also caused by many factors which we can refer to as "natural" ones. They include age, type of work, bad diet, lack of physical activities. All these issues make up a picture of pain and overuse syndromes.

The basis of diagnosis of this syndrome is the medical history that a doctor makes while talking to a patient as well as tests from the scope of diagnostic imaging such as X-ray examination. When it is

not sufficient for a doctor to make a diagnosis, more advanced tests such as spine CT scan or MRI scan are recommended.

The treatment generally involves conservative, not very invasive measures. The most common are rehabilitation procedures in the field of physiotherapy and kinesiotherapy. If they do not bring desired effects, intra-articular blocks with anti-inflammatory or painkillers are used.

Administration of stem cells directly into an affected joint causes its regeneration and a significant mobility improvement. ADSC stem cells that have been harvested from a patient's adipose tissue facilitate recovery processes and bring satisfaction to a patient. Return to a good physical condition is fast and a patient's comfort of life markedly increases.

ORTHOPEDISC TENNIS ELBOW

Tennis elbow i.e. lateral epicondylitis is a painful elbow condition that is caused by an inflammation of the tendons that attach to the lateral epicondyle of the humerus. While the common name suggests a link to sport, the percentage of tennis players among the afflicted is very low and amounts only to 10%. It is much more often observed in people working long at the computer keyboard e.g. IT specialists and people whose daily activities involve intensive repetitive wrist motion e.g. screwing in. The other factors that contribute to the condition include e.g. carrying heavy objects with fully extended elbows. The method of treatment depends on a type and advancement of the condition. Anti-inflammatory and analgesic medication as well as keeping an arm at rest very often bring desired effects. Sometimes physiotherapy, mainly massages prove to be useful. Good results are also achieved after applying ice or cryotherapy. Sometimes an arm requires a temporary immobilization in plaster cast or orthosis. Therapies with ADSC stem cells offered by Pulsmed Private Hospital provide vast opportunities for quick recovery. Stem cells derived from a patient's own adipose tissue and subsequently administered into an afflicted area bring about its regeneration, nourishing and improve mobility. Pain disappears and comfort of life significantly improves.



ORTHOPEDISC TREATMENT OF SYNOSTOSIS DISORDERS

Deficiency of synostosis observed after a fracture poses a serious problem, both for a patient and a doctor. It can result in permanent damage of mobility system.

While talking about synostosis disorders, one must mention the most important issue i.e. the causes for its occurrence.

Local causes that may impair synostosis include: circulatory problems in an injured area and improper reduction of fracture in the case of comminuted fracture in which dislocation occurred. Another cause may involve improper immobilization, insufficient time of immobilization (early removal of plaster cast), too rapid activation of a broken limb, or improper rehabilitation.

What also plays a role in the process is a patient's age because reconstruction of bone tissue proceeds differently in a child and an elder person.

The standard procedure includes immobilization of a broken limb in a plaster cast or orthosis. It is usually removed when X-ray examination confirms the lack of elasticity and resilience in the area of fracture and lack of ache, as it confirms a so-called clinical union. Sometimes an orthopedist has to perform an operational osteosynthesis of a fractured limb or its fragments when there are no prospects of healing in a plaster cast. In such a procedure special screws or plates are used, which is to facilitate proper healing of a broken bone. They are usually removed after some time, however, in the case of elderly patients they may be left for their safety. A limb that has been broken still requires special care and treatment, even after completing recovery procedures. It applies mainly to elderly patients

in whom reconstruction processes take longer than in young people and they usually suffer from a number of other diseases resulting from age, such as osteoporosis or circulatory problems.

The process of bone tissue reconstruction can be aided by physical procedures, both while wearing a plaster cast e.g. magnetic field and after removing it. The next phase involves exercises that are to bring back muscular strength and mobility in an injured joint. It must be noted that muscular atrophy in plaster proceeds very fast and thus, it is recommended to exercise in a plaster cast if a doctor allows.

Stem cells therapies offered by Pulsmed Hospital are a great opportunity for quick recovery. Stem cells harvested from a patient's adipose tissue and administered directly into the area of fracture facilitate healing, as a result a bone gets stronger, and regeneration and recovery processes are definitely faster.

BARIATRIC

BARIATRIC INTRAGASTRIC BALLOON

The procedure involves an endoscopic placement of a soft balloon filled with saline solution. The material the balloon is made of is resistant to gastric acid. The balloon remains in the stomach for the whole period of treatment - maximum six months - then it is endoscopically removed by a doctor.

The intragastric balloon is a method of treating patients with minor obesity for whom it means a therapy increasing their comfort of life as well as for patients with morbid obesity for whom it is a prerequisite for a return to a normal life. The treatment does not require any special preparation and there are very few contraindications for the procedure.

PROCEDURE AND TREATMENT

Patients for the procedure have to undergo a series of medical and laboratory tests and consult a doctor. Balloon placement takes about 10-15 minutes and is performed in short intravenous anesthesia. Patient does not feel any discomfort. A probe with a balloon is inserted into the stomach with a gastroscope and the balloon is filled with saline solution (400 - 700 ml).

Balloon placement is fully reversible and it can be removed any time. After a few hours of staying in hospital patients are discharged home.

Individual effects of balloon placement include decrease of appetite and evoking satiation, which is observed thanks to the reduction of stomach volume. The silicon balloon filled with saline solution reduces the amount of food the stomach can hold and

causes the patient to feel fuller faster. It helps to implement two necessary rules, i.e. reduction in the amount of food eaten at a time and decrease of carbohydrates with a high glycemic index.

After six months the intragastric balloon is removed in a procedure similar to that of a placement. The doctor removes the saline solution from the balloon and removes it through the mouth with a gastroscope. The procedure takes about 15 minutes.

BARIATRIC CONTRAINDICATIONS

THE CONTRAINDICATIONS FOR THE INTRAGASTRIC BALLOON PLACEMENT INCLUDE:

- duodenal and gastric ulcers,
- inflammatory conditions of the esophagus,
- Crohn's disease,
- esophageal or gastric varices
- hereditary or acquired intestinal telangiectasia,
- large esophageal hiatal hernia and esophageal changes,
- previous stomach surgery, including bariatric procedure,
- mental disorders,
- alcohol and drug abuse,
- diagnosed kidney, liver or lung diseases,
- chronic steroid therapy,
- pregnancy and breast feeding.

BARIATRIC AFTER THE PROCEDURE

During the first few days after placing the balloon patients will feel uncomfortable as the stomach must get used to the presence of the balloon. They may experience nausea, vomiting, bloating, diarrhea and cramping until the body adjusts. These conditions are normal and should be expected.

Adequate hydration is critical during the first few days. Patients should drink a lot of water and avoid eating solid foods.

THE DIET FOR THE FIRST THREE DAYS SHOULD INCLUDE:

- fruit juices, still mineral water,
- milk, yoghurt, cottage cheese,
- thin soups, food supplements based on yoghurt,
- jellies

THE PRODUCTS THAT SHOULD BE AVOIDED INCLUDE:

- coffee,
- fizzy drinks,
- fatty foods,
- chocolate,
- ice cream,
- alcohol

DURING THE INITIAL PERIOD OF THE TREATMENT PATIENTS SHOULD:

- plan the first days appropriately, so that they do not get engaged in any excessive physical activity and exhausting work,

- drink cold liquids in small amounts, beginning with a teaspoon and gradually increase the amount of the liquid. If liquid is taken in large amounts, there is a risk of nausea and vomiting,

- doctors and assistants of the Clinic will be on call for the first days after the placement of the balloon and will deal with any problems a patient may report.

After a few days of a liquid diet patients will be ready to begin the transition to semi-solid, and then to solid foods. The pace of the transition will depend on the progress in adapting to new conditions and how the body tolerates the liquids. It is essential that the transition is made slowly without trying to rush anything.

RECOMMENDED DIET SHOULD INCLUDE:

- porridge,
- baby food,
- thicker soups,
- fruit purees

The time the body needs to adjust completely to the intragastric balloon usually takes two weeks and then patients should start a normal diet according to a personal diet plan assigned by the medical team and glycemic index guidelines.

ANTI - AGING

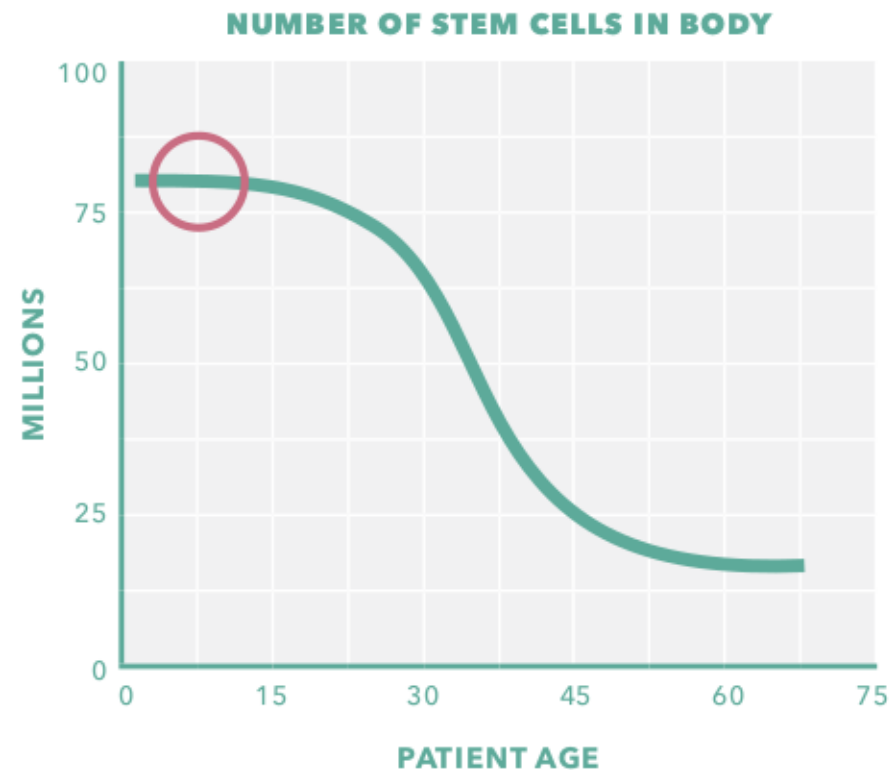
ANTI - AGING

ACTIONS AGAINST AGING, FOR RESTORING YOUTH AND REVITALIZATION

Application of stem cells derived from a patient's own adipose tissue is the future of modern aesthetic medicine, plastic and reconstructive surgery as well as a way to improve health and struggle with a lot of diseases.

ANTI - AGING

THE BIGGEST NUMBER OF STEM CELLS AT PUBERTY

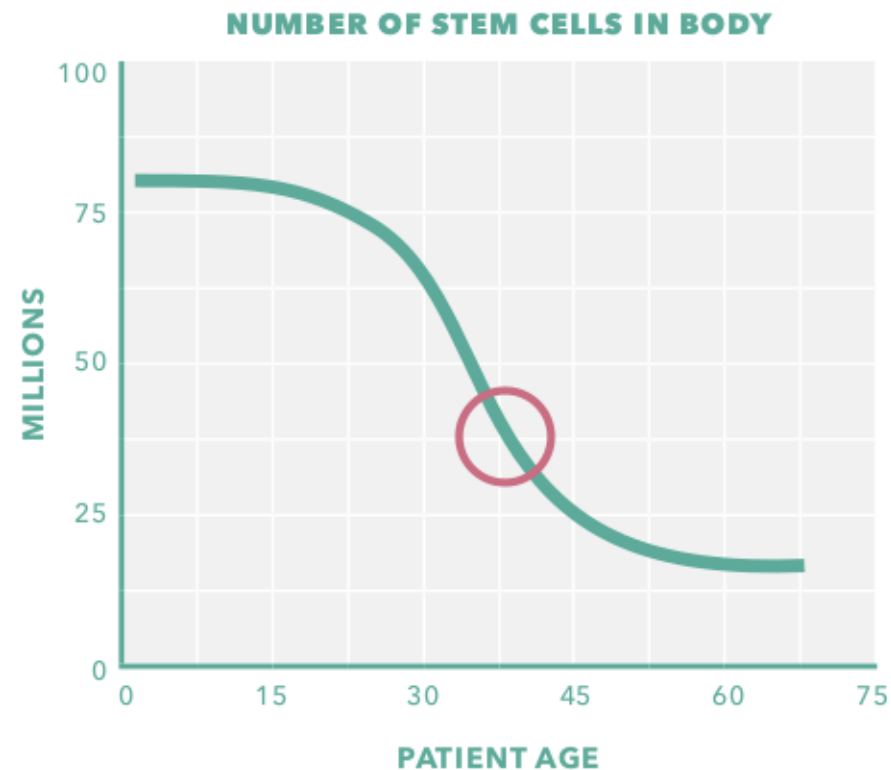


Young people have more stem cells and therefore heal faster



ANTI - AGING

WITH AGE THE NUMBER OF STEM CELLS DECREASES

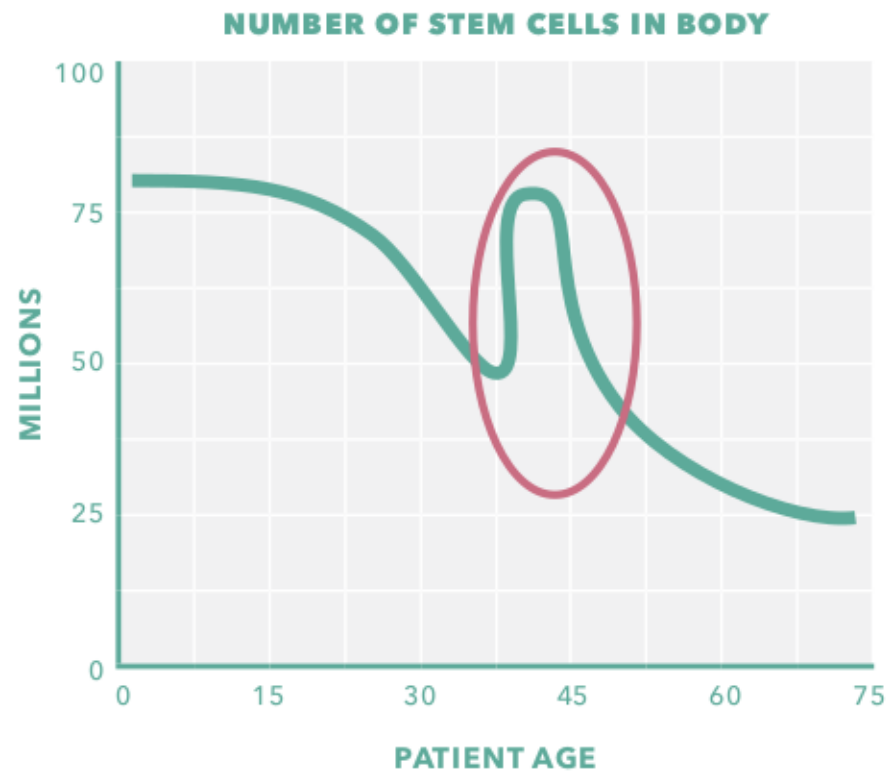


Older people have less stem cells and therefore heal slower



ANTI - AGING

CELL THERAPIES /ADSC/



ANTI - AGING

ADSC STEM CELLS

Stem cells are primal cells that have an ability to renew themselves and differentiate into a diverse range of specialized cell types. The biggest number of stem cells is found at puberty, later their number decreases and the process of aging is observed

ADSC - ADIPOSE DERIVED STEM CELLS
are the future of modern medicine.



ANTI - AGING

THE BEST SOURCE FOR OBTAINING ASC - ADULT STEM CELLS

BONE MARROW

about 50.000 ASC can be obtained at a time, the majority differentiates into blood cells.

PERIPHERAL BLOOD

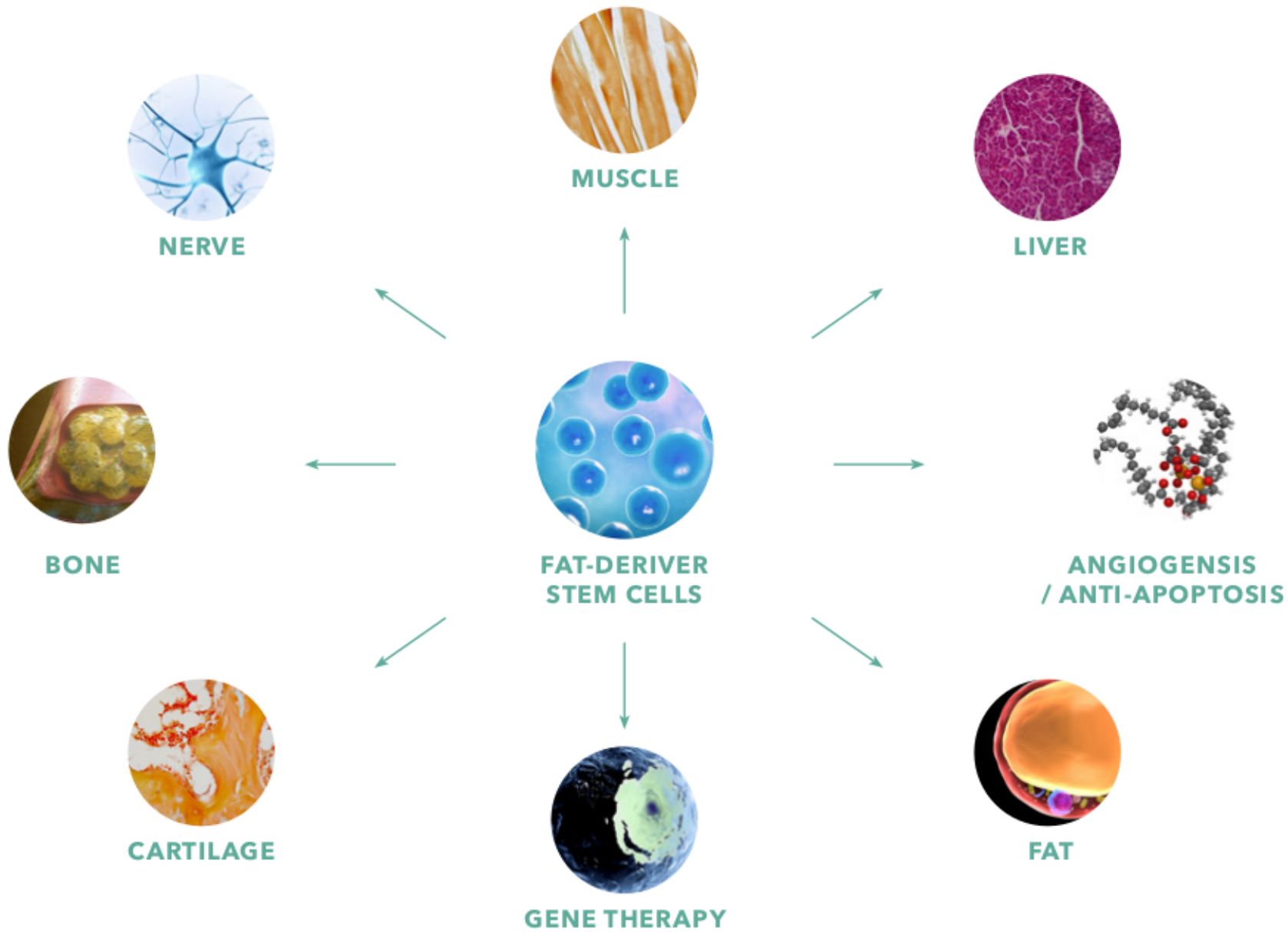
about 10.000 ASC can be obtained at a time, 50% of which are corpuscles and 50% can differentiate into other tissues.

ADIPOSE TISSUE

about from 10 to 50 million ASC even can be obtained at a time, 95% of which can differentiate into other tissues than blood

ANTI - AGING

STEM CELL DIVISION



ANTI - AGING

ADSC APPLICATIONS

- in orthopedics and sports medicine,
- plastic and reconstructive surgery,
- aesthetic medicine and anti-aging medicine,
- treatment of burns, fistulas and nonhealing wounds,
- erectile dysfunctions, urinary incontinence,
- hair loss

A lot of centers all over the world conduct the research on the application of ADSC in the treatment of diabetes, lung and liver disorders, infarction and ischaemic heart disease, stroke, Sclerosis Multiplex (SM), Alzheimer's disease, autism, spinal cord injuries and many others.

ANTI - AGING

BREAST LIPOMODELLING + ADSC CAL METHOD

In Pulsmed Hospital breast augmentation procedures with a patient's own adipose tissue are performed using the novel CAL /Cell-Assisted Lipotransfer/ technique that has been developed by Dr. Yoshimura in 2008. In this method the lipograft is enriched with ADSC /Adipose Derived Stem Cells/. It is of crucial importance for the effects of treatment as breast looks more natural.

ANTI - AGING

LIPOFILLING + ADSC

- cosmetic filling of face and hand wrinkles and furrows
- lip augmentation
- silhouette modelling / cheeks, buttocks, calves augmentation/
- reconstruction of volumetric tissue loss resulting from injuries or tissue atrophy
- breast augmentation or firming
- cosmetic gynecology procedures

ANTI - AGING

NON-SURGICAL LIFTING + ADSC POWER MULTI THREAD

- State-of-the-art non-surgical lifting procedures of face, decollete or breast using the absorbable Power Multi Thread
- Additional option of applying a patient's own adipose derived stem cells ADSC or/and platelet-rich plasma PRP
- Quick and long-lasting effect of non-surgical treatment
- The best way to regain skin elasticity and natural look

MORE ABOUT ADIPOSE STEM CELL THERAPY

Offer of the Tissues and Stem Cells Bank and the Fat Tissue and ADSC Transplant Clinic:

- adipose tissue collection and isolation of ADSC stem cells
- banking of the collected adipose tissue and ADSC stem cells
- conducting research in medical treatment based on cellular technology
- preparation of ADSC stem cells for treatment in:



ORTHOPEDICS (enthesopathies, joints degeneration)



AESTHETIC MEDICINE (ADSC mesotherapy, scars, regeneration)



PLASTIC SURGERY (breast augmentation, tissue defects, ADSC uplift surgery)



ANTI-AGING THERAPIES (ADSC infusions, tissue and organ regeneration)

DIABETOLOGY (treatment of type II diabetes)



OPHTHALMOLOGY (optic nerve atrophy - ONA)



VASCULAR SURGERY AND CARDIOLOGY (ischemia, post-infarction regeneration)



MAXILLOFACIAL SURGERY (bone reconstruction, osteoarthritis, implantology, dentistry, tissue regeneration)



LARYNGOLOGY (bone reconstruction, chronic sinus inflammation)



NEUROSURGERY AND NEUROLOGY (discopathies, post-stroke conditions, ischemia)



UROLOGY (rectal fistulas, urinary incontinence)



Capabilities of the Tissues and Stem Cells Bank

The Tissues and Stem Cells Bank is authorized to collect, test, process, store and distribute adipose tissue and mesenchymal stem cells derived from adipose tissue. The Bank's activity gives patients professional and safe care of the collected adipose tissue and ADSC stem cells. The Tissues and Stem Cell Bank, thanks to its Quality Assurance System guarantees the quality of stem cells products. All donations have bacteriological tests, and are evaluated in terms of the number of contained stem cells and their viability.

In the Tissues and Stem Cells Bank new possibilities of stem cell treatment for doctors and patients are available. After the usual liposuction procedure, patients have the option of freezing their adipose tissue or stem cells for future treatments. ADSC stem cells are frozen under validated conditions in liquid nitrogen vapor, so that preparations (after thawing) are available to patients for many years from the date of collection. The Tissues and Stem Cells Bank is the perfect place to conduct scientific research with the use of regenerative medicine.



One liposuction, ADSC stem cells for life

Thanks to the collection of excess adipose tissue and ADSC stem cells isolation, the cellular product can be divided into portions. The amount of the portions is determined individually with the patient's physician. This is a revolutionary change in the planning of stem cells therapy, in which the patient has only one liposuction to collect adipose tissue. Stem cells isolated from one procedure can be given to the patient repeatedly, in outpatient settings. This is a great convenience, especially in plastic surgery, aesthetic medicine, orthopedics, diabetology or neurosurgery, where it is not enough to administrate ADSC stem cells in only one injection/infusion to achieve a satisfactory clinical response.



Stem cells therapy in treatment of many diseases

The ADSC stem cells isolated and stored in the Tissues and Stem Cells Bank are used in the treatment of many diseases and degenerations, e.g. in neurosurgery (discopathy), orthopedics (entzopathies, shoulder, knee, wrist), diabetology (type II diabetes) or oral surgery. ADSC stem cells can be used to improve beauty, in plastic surgery (facial, breast lipofilling), aesthetic medicine (mesotherapy, facial, breast and body treatments).



Cooperation with Bank Tissues and Cells

We offer access to modern therapies based on stem cells to hospitals, scientific institutions and patients. We enable short- and long-term storage of ADSC stem cells for the needs of ongoing therapies. We encourage hospitals and clinics from all over Poland and Europe to cooperate with our Tissues and Stem Cells Bank. After signing the contract, you can direct your patients to our facility. An experienced team of specialists from our Hospital makes a medical qualification and then isolates ADSC stem cells from the patient's fat tissue. After isolation of ADSC stem cells, we obtain ready-made cellular products for clinical use. Then, depending on the therapeutic decision, the stem cells product can be sent to your medical facility fresh (on the same day/next day) or at the right time (after many weeks, months) in a frozen form (in dry ice).

We are convinced that we will offer you a satisfactory and long-term cooperation model that ensures your facilities and patients treated with constant access to modern cellular therapies.



Discopathy

WHAT IS DISCOPATHY?

Discopathy is a disease which affects intervertebral discs, which are disks found between two of the vertebrae in the vertebral column. The most common type of the disease is degenerative discopathy which is a process that mainly takes place due to osteoarthritis. It can be described as the stiffening, and also gradual settlement of the discs, which commonly affects those found at the base of the lumbar, between the L5 and S1 vertebrae. Discopathy is the most common vertebral column disease.

TREATMENT OF DISCOPATHY WITH ADSC STEM CELLS

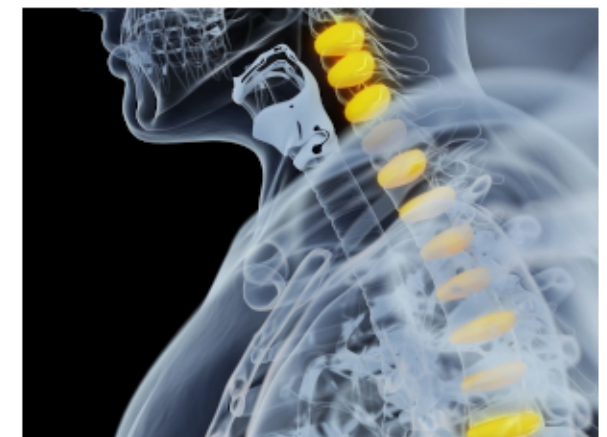
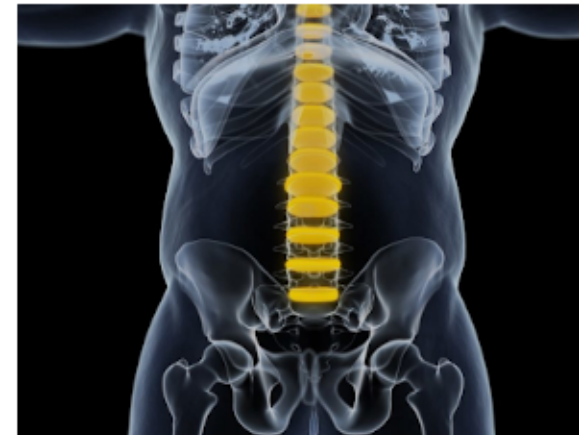
An innovative and effective method of treating discopathy is injection of mesenchymal ADSC stem cells isolated from the patient's own body fat. ADSC stem cells have the innovative ability to transform into different types of specialized cells, building, among others, cartilage, muscles, bones, tendons and ligaments. They also stop scarring processes, promote angiogenesis and stop the process of cell death due to hypoxia. These cells strengthen the natural capacity of tissues to regenerate them.

The treatment of ADSC stem cell discopathy involves the removal of adipose tissue by thin-needle abdominal liposuction, purification, preparation and administration directly to the damaged site to initiate tissue regeneration and repair. The procedure can be performed under local or general anesthesia.

WHAT CAUSES DISCOPATHY?

Discopathy occurs due to the deterioration or wear and tear of one or several intervertebral discs over time, linked to osteoarthritis. The latter disease is a chronic ailment that can be identified through persistent joint aches and pains which are caused when the cartilage and the joint itself become abnormally worn down.

Discopathy can occur at any age, despite the fact that old age is one of the contributing factors. The disease usually occurs because of repetitive microtrauma or physical stress, but it can also be caused by congenital anomalies. Intervertebral disc wear can appear anywhere along the spine, but it quite often occurs in the lower back, the lumbar.



Stroke

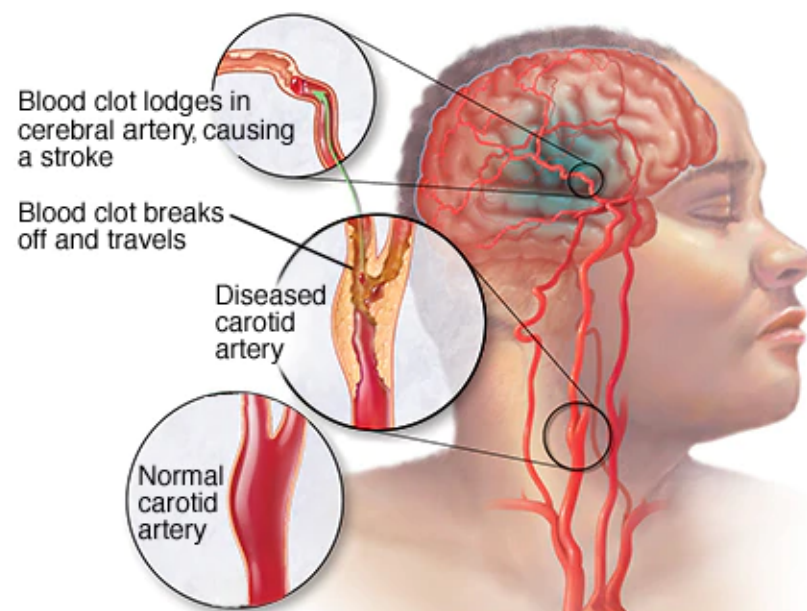
WHAT IS STROKE?

Stroke is a disease that affects the arteries leading to and within the brain. It is the No. 5 cause of death and a leading cause of disability in the United States.

A stroke occurs when a blood vessel that carries oxygen and nutrients to the brain is either blocked by a clot or bursts (or ruptures). When that happens, part of the brain cannot get the blood (and oxygen) it needs, so it and brain cells die.

TREATMENT OF STROKE WITH ADSC STEM CELLS

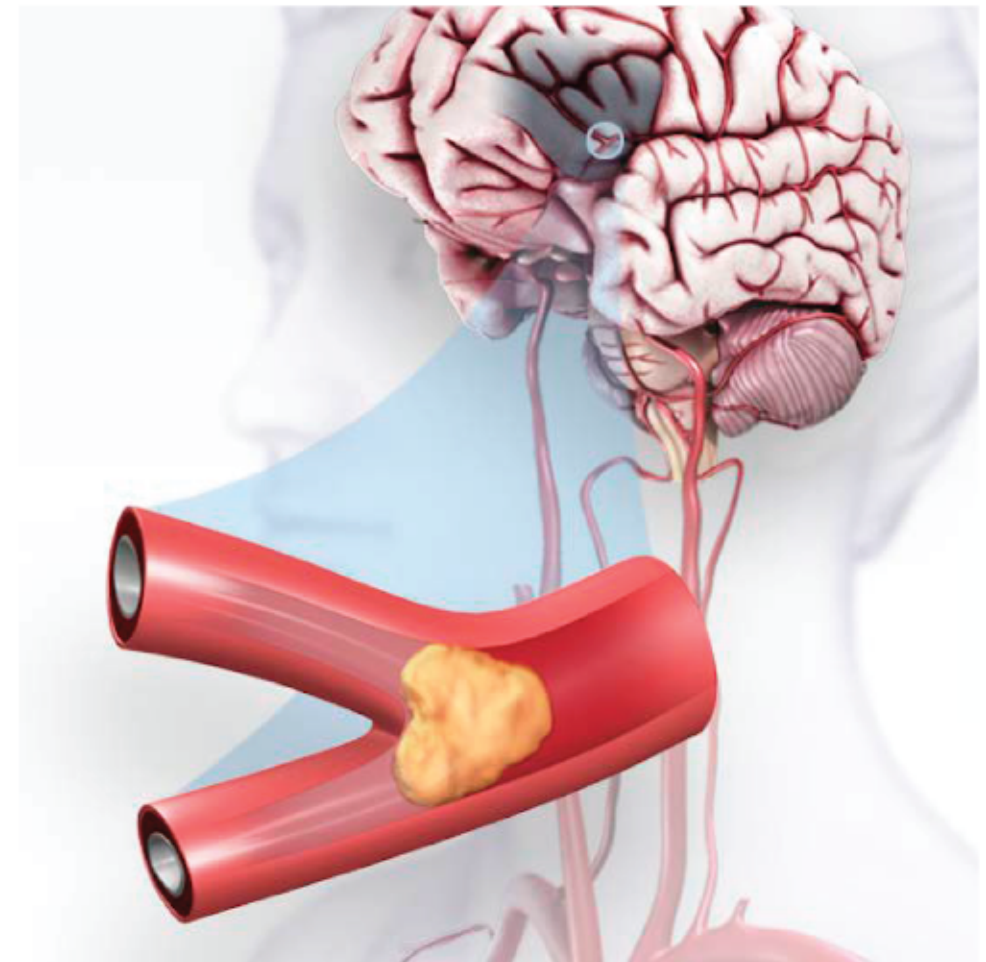
The adipose-derived stem cell (ADSC) treatment effectively improves the neurological deficits during stroke by reducing neuronal injury, limiting proinflammatory immune responses, and promoting neuronal repair, which makes ADSC-based therapy an attractive approach for treating stroke.



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STROKE TREATMENT METODHS

Worldwide, stroke is one of the main causes of death and disability in adult patients and has become a serious public health problem. Current therapeutic approaches focus on removing the blockage of the blood vessel by thrombolysis and surgery. However, these treatments usually have small time window and have no limiting effect on neural repair after the injury and, therefore, can help 10% of the patients. There is a need for new therapies that can both limit ischemic brain lesion and promote neural repair.

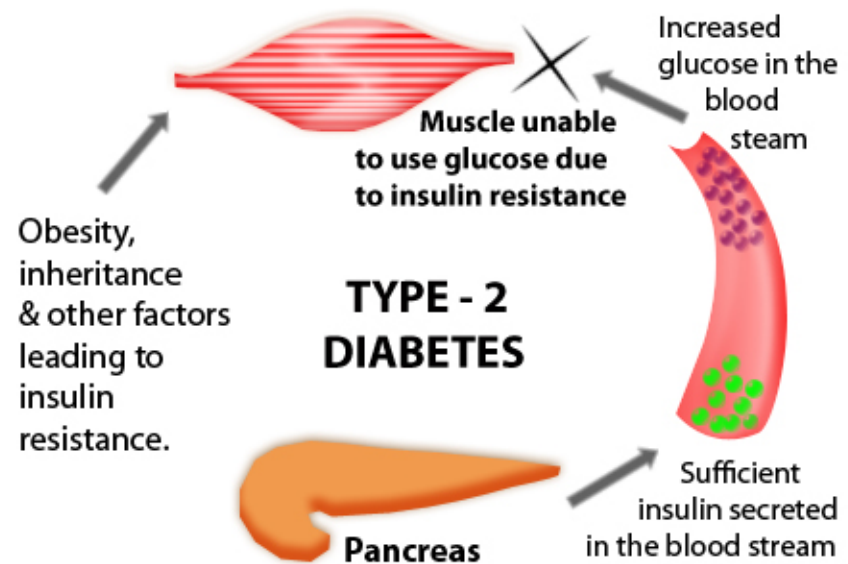


The use of adipose derived stem cells to treat microvascular complications of type 2 diabetes

WHAT IS DIABETES TYPE II?

Diabetes is a chronic (lifelong) disease marked by high levels of sugar in the blood. Glucose enters the bloodstream when food is consumed. Glucose is the source of fuel for the body. The pancreas produces insulin, which moves the glucose from the bloodstream into muscle, fat, and liver cells, where it can be used as fuel. People with diabetes have high blood sugar, because the pancreas does not make enough insulin or their muscle, fat and liver cells do not respond to insulin normally, or both.

In Diabetes Type II, the pancreas does not make enough insulin to keep blood glucose levels normal, often because the body does not respond well to insulin.



The project anticipates the use of mesenchymal stem cells (MSCs) from patients' own adipose tissue (ADSC - Adipose Derived Stem Cells) for the treatment of diabetes mellitus type II (T2DM) and its complications. The aim of the project is to develop innovative therapy and evaluate its effectiveness in the treatment of T2DM and organ complications: angiopathy and diabetic retinopathy, cardiomyopathy, nephropathy, diabetic polyneuropathy. Previous treatment proceedings in diabetes was based on symptomatic treatment and consisted of the use of oral drugs or exogenous insulins (controlled injection form to compensate the level of sugar in the blood). In recent years, MSCs obtained from various tissues are the subject of research and are also used in the treatment of diabetes. This is due to the ability of MSCs to unlimited renewal, immunomodulatory properties, ability to migrate to damage sites, and differentiation into specific cells and tissue. MSCs from adipose tissue can be used in diabetes treatment, taking into account the fact that these stem cells have the ability to: differentiation into pancreatic beta cells that produce insulin; regeneration of existing Langerhans cells of the pancreas by secretion of cytokines and growth factors (VEGF, IGF-1, PDGF-BB, angiopoietin-1, etc.); protection of endogenous islet cells through immunoregulatory and antioxidant activity and inhibition of T cell proliferation; improvement of organ and tissue insulin sensitivity through secretion and activation of various factors; reduction of proinflammatory cytokines and chemokines; stimulation of M1 macrophages transfer into anti-inflammatory M2. MSCs activity in diabetes helps to stabilize blood glucose levels and is effective in the treatment of chronic complications of organ diabetes listed above. Most research uses stem cells derived from bone marrow, umbilical cord blood, or mature cells of various tissues that have been restored to stem cells.

Amyotrophic lateral sclerosis (ALS)

WHAT IS ALS?

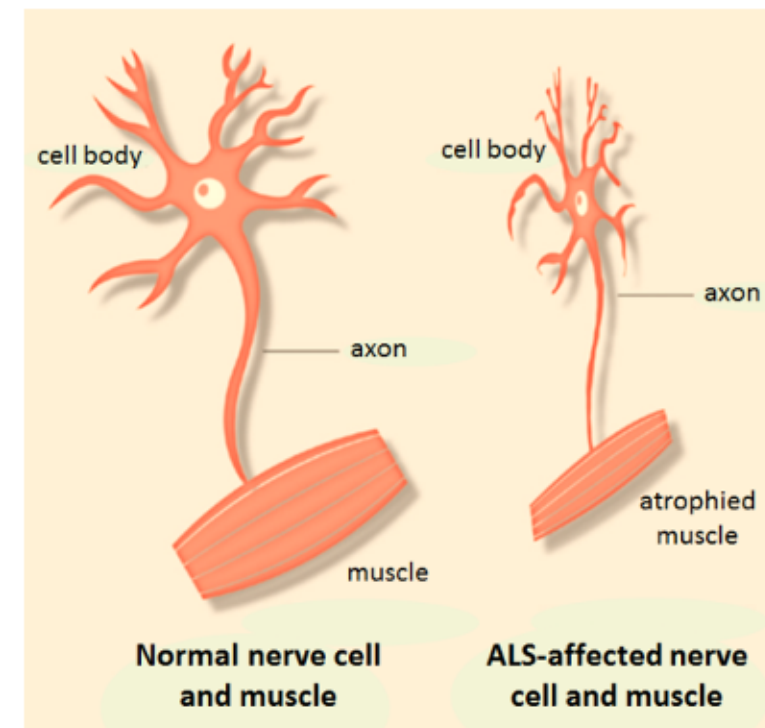
Amyotrophic lateral sclerosis (ALS) is a rare fatal neurodegenerative disease which is characterized by the loss of upper and lower motor neurons resulting in muscle weakness, progressive paralysis and mortality 3 to 5 years after the clinical onset due to respiratory failure. It is estimated that about 30,000 people in United States are struggling with ALS with a higher incidence rate in men. ALS can be divided into two forms, including sporadic ALS (sALS) with 90% prevalence and the familial ALS (fALS) affecting only 10% of patients with a possible link to some genetic mutations.

TREATMENT OF ALS WITH ADSC STEM CELLS

Adipose-derived stem cells (ADSCs) are regarded as potential source of regenerative medicine, since their multipotency, abundance and minimal ethical consideration. In addition to direct replacement of damaged cells using stem cells, recent studies have reported that stem cells secrete various beneficial factors and modulate a hostile environment during illness. In many reports, this is called a bystander or paracrine effect. ADSCs express and secrete multiple factors for the paracrine effects and have a high proliferation rate with a lower senescence than other tissue-derived stem cells. Thus, ADSCs are reliable source for paracrine function based stem cell therapy.

ALS TREATMENT METHODS

The presence of blood brain barrier (BBB) is the main problem in the treatment of central nervous system (CNS)- related diseases such as ALS. The newly designated methods especially drug delivery vectors may help to solve this problem. There are two types of drug delivery tools, including synthetic and natural vectors. In general, synthetic vectors are products of chemical reactions from lipophilic compounds. Liposomes are the main type of synthetic tools utilized by researchers, however, regarding their possible side effects such as immunogenicity, accumulation in tissues and unknown consequences of this method, applying natural vectors instead is being considered.



Multiple sclerosis (SM)

WHAT IS SM?

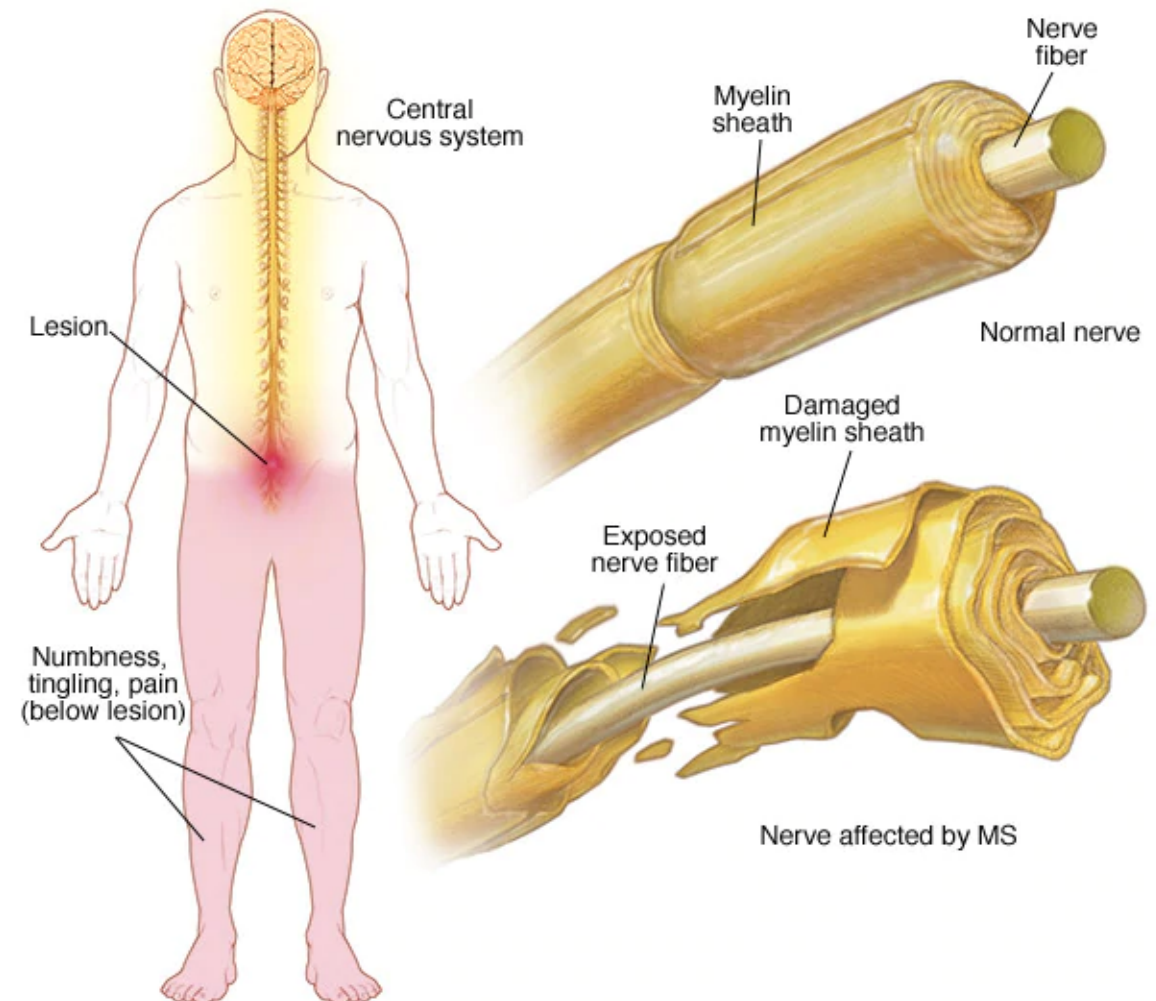
SM is a demyelinating disease in which the insulating covers of nerve cells in the brain and spinal cord are damaged. This damage disrupts the ability of the nervous system's to communicate, resulting in a range of signs and symptoms, including physical, mental, and sometimes psychiatric problems. Specific symptoms can include double vision, blindness in one eye, muscle weakness, trouble with sensation, or coordination. MS takes several forms, with new symptoms either occurring in isolated attacks (relapsing forms) or building up over time (progressive forms). Between attacks, symptoms may disappear completely; however, permanent neurological problems often remain, especially with the disease progression.

TREATMENT OF SM WITH MESENCHYMAL STEM CELLS

The therapeutic effects of MSC in MS have been demonstrated in several animal studies. In one of the first studies of immune modulation, Zappia et al. demonstrated administration of MSC subsequent to immunization with encephalomyelitis-inducing bovine myelin prevented onset of the mouse MS-like disease EAE. The investigators attributed the therapeutic effects to stimulation of Treg cells, deviation of cytokine profile, and apoptosis of activated T cells. It is interesting to note that the MSC were injected intravenously. Several other studies have shown inhibition of EAE using various MSC injection protocols. To our knowledge there is only one publication describing clinical exploration of MSC in MS. An Iranian group reported using intrathecal injections of autologous culture expanded MSC in treatment unresponsive MS patients demonstrated improvement in one patient (EDSS score from 5 to 2.5), no change in 4 patients, and progressive disease in 5 patients based on EDSS score. The study revealed, that six patients had improvement in their sensory, pyramidal, and cerebellar functions. One showed no difference in clinical assessment and three deteriorated.

SM TREATMENT METODHS

There is no known cure for multiple sclerosis. Treatments attempt to improve function after an attack and prevent new attacks. Medications used to treat MS, while modestly effective, can have side effects and be poorly tolerated. Physical therapy can help with people's ability to function. Many people pursue alternative treatments, despite a lack of evidence of benefit. The long-term outcome is difficult to predict, with good outcomes more often seen in women, those who develop the disease early in life, those with a relapsing course, and those who initially experienced few attacks. Life expectancy is on average 5 to 10 years lower than that of an unaffected population.



Alzheimer's disease

WHAT IS ALZHEIMER'S DISEASE?

Alzheimer's disease (AD) is the most common type of dementia with cognitive deficits, resulting from progressive neuronal death in the hippocampus and the cerebral cortex. It is well known that the accumulation of amyloid beta ($A\beta$) is responsible for the progression of AD, which includes widespread neuronal dysfunction and ultimately, cell death. Pathologically, the brain of AD patients is characterized by an accumulation of senile plaques, atrophy of neurites, and neurofibrillar tangles. The plaques contain large amounts of $A\beta$ peptide derived from cleavage of the amyloid precursor protein (APP). In familial AD, mutations in APP have been shown to increase the production of $A\beta_{42}$ leading to disease, and this association has led to the hypothesis that $A\beta$ is the key to the pathogenesis of AD. $A\beta$ accumulates in the mitochondrial membrane and impairs mitochondrial functions. This results in the induction of pro-apoptotic factors such as caspases, whose activation induces apoptosis. p53, known as a tumor suppressor, has a critical role in determining cell fate. There is abundant evidence that p53-dependent cell death is increased by oxidative damage of cells during AD. p53 induces apoptosis by regulating apoptotic proteins such as Bcl-2-associated X (Bax) and caspase-3.

TREATMENT OF ALZHEIMER'S DISEASE WITH MESENCHYMAL STEM CELLS

Current reports suggest that ADSCs may be a promising new cell source for regenerative cure, which can be regenerative treatment of Alzheimer's disease. Ma et al. showed that intracerebral administration of ADSCs has the potential efficacy to restore spatial learning/memory ability in APP/PS1 double transgenic mice. The improvements were believed to arise due to a dramatic reduction in amyloid- β aggregation, which is one of the fundamental pathologies of the disease, and also included learning and memory recovery. It was evident that administration of ADSCs could alter microglial activation, as well as mitigate dementia symptoms and alleviate the cognitive downturn. IV administration of ADSCs also palliated dementia symptoms and had therapeutic effects in another Alzheimer's disease mouse model. Pérez-González et al. investigated the issue of neurogenesis in the adult hippocampus. They proposed the possibility that leptin, an adipose-derived hormone, could promote neurogenesis, as well as its mechanism of action. The results indicated that the proliferation of neuronal precursors was increased in APP/PS1 double transgenic mice following leptin, as well as neuroprotective consequences. In summary, transplantation of ADSCs might have potential beneficial effects in preventing the pathological development of Alzheimer's disease.

THE CAUSE OF ALZHEIMER'S DISEASE AND IT'S TREATMENT METHODHS

The cause of Alzheimer's disease is poorly understood. About 70% of the risk is believed to be inherited from a person's parents with many genes usually involved. Other risk factors include a history of head injuries, depression, and hypertension. The disease process is associated with plaques and neurofibrillary tangles in the brain. A probable diagnosis is based on the history of the illness and cognitive testing with medical imaging and blood tests to rule out other possible causes. Initial symptoms are often mistaken for normal ageing. Examination of brain tissue is needed for a definite diagnosis. Mental and physical exercise, and avoiding obesity may decrease the risk of AD; however, evidence to support these recommendations is weak. There are no medications or supplements that have been shown to decrease risk.

No available treatment can stop or reverse the progression of the disease, though some may temporarily improve symptoms. Behavioral problems or psychosis due to dementia are often treated with antipsychotics, but this is not usually recommended, as there is little benefit with an increased risk of early death.

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and Clinics that deal with the research and application of stem cells in medicine – gscn - global stem cells network

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