# Cord Blood Banking - Stem Cells for Life



smart Cells 00 Stem cells for life



We believe that storing your child's stem cells at birth can be a crucial part of curing an unexpected illness. We believe that in the future this service should be available to every parent, child and family. We are a company that is for life.

حفظ الخلايا الجذعية لمولودك الجديد

Estd. 2000





# As a society we've always dreamt of a healthy, disease-free world.

One of the bravest moves in that direction has come from stem cell research and therapy. Stem cell therapy is currently being used to successfully treat more than 80 diseases, but the field is rapidly evolving backed by prestigious research and clinical trials.

Smart Cells is the first private UK stem cell storage company to have released stored stem cell units for use in the treatment of children with life-threatening illnesses. We have released the greatest number of samples for use in successful transplants from the UK.

Smart Cells International UAE branch is not a distributor it is fully owned by mother company.

We believe with the development of technology in the future we will be able to treat even more illnesses. We believe our customers deserve the best service available and we run our state of the art facility with leading professionals in the field.

We believe that storing your child's stem cells at birth can be a crucial part of treating or curing an unexpected illness.

We believe that in the future this service should be available to every parent, child and family.

We are a company that is for life.

# What are stem cells?

Stem cells are biological cells found in the body. They serve as a repair and maintenance system for other body cells and the blood and immune systems by multiplying and transforming in to blood, bone, tissue and organ cells, when they are required to. At Smart Cells we store stem cells found in the umbilical cord blood and tissue. These potent cells find their way to injured cells and tissue in the body and begin to replace them.

What are cord blood stem cells used for?

A cord blood stem cell transplant can be used to replace diseased cells with healthy new cells, and rebuild an individual's blood and immune system. More recently, cord blood stem cells have been shown to be able to form other tissues in the body such as nerve and bone cells.

There has been considerable scientific and clinical interest in the potential of cord blood stem cells in regenerative medicine. In laboratory work, cord blood cells have been shown to be capable of developing into a range of cell types such as nerve, bone, skin, heart and liver cells to name a few.

These exciting developments have already translated into early clinical treatment of ischaemic heart disease and some neurological conditions. The future of regenerative medicine

holds much promise and cord blood is likely to play a major part in this advancement in our ability to treat human disease.

# Why store my baby's cord blood stem cells?

Storing your baby's stem cells at the time of birth is a once in a lifetime opportunity to capture a valuable resource that could be used in the treatment of serious illness or disease.

In the past the main source of stem cells came from bone marrow. Today however, we've found through intensive research that umbilical cord blood and tissue are a rich source of particularly potent stem cells.

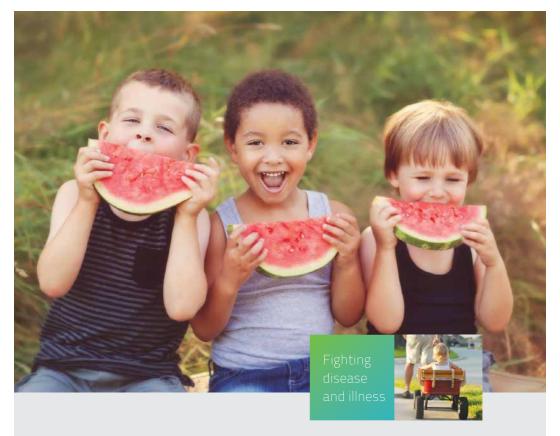
The first successful stem cell transplant using stem cells found in the umbilical cord blood was in 1988. The patient was a little boy suffering from a serious blood disorder called Fanconi's Anaemia, and the cord blood was obtained from his new born sister. This was the start of stem cell transplantation using umbilical cord blood.



www.youtube.com/c/smartcells

A recent YouGov survey found that almost 8 in 10 parents felt more should be done to educate them about stem cell storage

Visit our YouTube channel to watch a short video for more information



Since then over 30,000 successful transplants have taken place around the world and have been used in the treatment of:

#### Immune Disorders

Chronic Granulomatous Disease, Hystiocytic Disorders; Leukocyte Adhesion Deficiency, Severe Combined Immunodeficiency Diseases, Wiskott- Aldrich Syndrome.

#### Cancer

Acute Leukaemia, Chronic Leukaemia, High-Risk Solid Tumors, Hodgkin & Non-Hodgkin Lymphoma, Myelodysplastic Syndromes.

#### Blood Disorders

Aplastic Anaemia, Beta Thalassemia, Diamond-Blackfan Anaemia, Fanconi's Anaemia, Sickle Cell Disease.

#### Neurological Disorders

Traumatic Brain Injury, Cerebral Palsy, Hypoxic Ischemic Encephalopathy (HIE), HSV Encephalitis & NMDA Receptor Antibody Encephalitis.

#### Metabolic Disorders

Krabbe Disease, Hurler Syndrome, Metachromatic Leukodystrophy, Sanfilippo Syndrome.

# Cord tissue, another source of stem cells.

The future of cord tissue stem cell based therapy in accordance with current scientific opinion is promising. Smart Cells firmly believes that storing umbilical cord tissue as well as the cord blood is the most efficient way to store your child's stem cells. Storing your child's cord blood and cord tissue stem cells opens the range of opportunity to treat disease in the future.

Cord tissue stem cells have been studied extensively for their ability to form bone, cartilage, nerve, tendon and skin cells. The potential therapeutic value they offer for treatment in a wide range of diseases is increasing all the time.

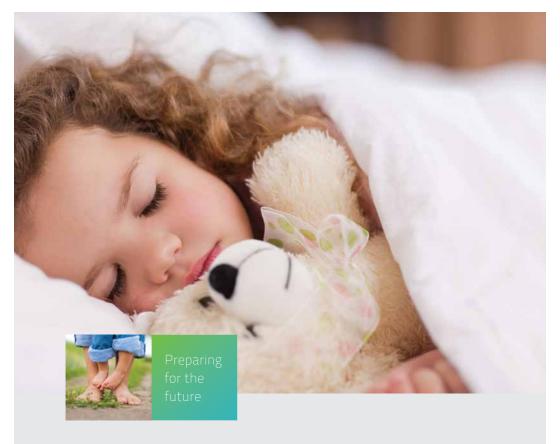
Reports by leading scientists have shown that the Wharton's Jelly of the umbilical cord (the gelatinous tissue in the cord), is a rich source of a different, but equally important, type of stem cell.

# When can they be collected?

Cord tissue stem cells can be very easily and successfully isolated from a section of the umbilical cord that is collected at birth.

Once collected, the cord is safely and efficiently transported in a special solution designed to preserve the stem cells during the transportation process.

Once it arrives at the laboratory the cord is processed immediately. It's then placed in storage where it will remain for use in the future should it be needed.



# When can cord tissue stem cells benefit your baby's life?

Cord tissue stem cells have been shown to differentiate into bone, cartilage, nerve, adipose, cardiac, smooth muscle, hepatic and skin cells and are therefore extremely promising in regenerative medicine.

Current research and clinical trials are under way evaluating cord tissue stem cells for the treatment of:

- Multiple Sclerosis
- Stroke
- Diabetes
- Parkinson's disease
- Artificial valves and capillaries
- Gene therapy for delivery of anti-tumour agents for cancer treatments
- Treatment of chronic autoimmune and inflammatory conditions, such as Rheumatoid Arthritis and Crohn's disease

# Why do we choose to store volume reduced blood instead of whole blood?

The first reason is that it's the industry standard in the UK. Both the NHS Cord Blood Bank and the Anthony Nolan Trust store volume reduced samples, as do the majority of public and private banks around the world. Smart Cells also uses the processing technique employed by most public banks. Volume reduction prior to freezing using our method, specifically preserves the all-important stem cells.

The second reason is that it's safer. The freezing process used to preserve the stem cells in the sample damages the red blood cells, which means there's a lot of debris and free haemoglobin in the sample when it's thawed. In turn this can result in post-transplant complications. The volume reduction method reduces the red blood cell content.

The reason why red blood cells are dangerous to patients is that they tend not to survive the freezing and thawing process. Red blood cells undergo "lysis" during cryopreservation, a rupture of the cell membrane that spills the cell's contents, which include the haemoglobin and empty membrane sacks called red cell "ghosts". These lysed red cell elements can cause complications for patients including kidney, cardiac and respiratory problems at the time of transplant.

As the volume reduced method reduces the red blood cell content, this has the added benefit of minimizing reactions in the patient due to blood type incompatibility if the sample is being used for a brother or a sister.



## Why store Volume Reduced?



- Concentrated sample improves quality
- Plasma contains proteins, but no stem cells, so it is not needed for transplant therapy. Plasma removed during volume reduction¹
- Lower risk of infusion reactions
- Red blood cells tend not to survive the freezing and thawing process. They are not believed to help during transplant, so they are not needed either<sup>2</sup>
- Contains cells that may be useful in future regenerative medicine such as VSEL cells, MSC's and HSC's
- Contains growth factors vital for regenerative medicine
- Less red cell debris which minimises incompatibilities when stem cells are being used for a sibling
- Fewer complications for patients during a transplant

## References

12 parentsguidecordblood.org – Andromachi Scaradavov, MD – Medical Director of the New York Blood Center's National Cord Blood Program



For more information or scientific evidence visit us at <a href="https://www.smartcells.com/scientific-evidence">www.smartcells.com/scientific-evidence</a>

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# Why trust Smart Cells

Incorporated in July 2000, Smart Cells was the first cord blood stem cell storage company in the UK. We are also the first UK private company to have successfully released stored cord blood units to transplant centres worldwide, to treat children with life-threatening illnesses.

Leading the way by using state of the art technology, we're ensuring we are technologically advanced and innovative company in the field. We're also responsible for a number of successful private cord blood transplants in the UK.

We never forget what the science is being used for – people. Exceptional customer service has been important to us since we started and our founder is still actively involved in the running of the business. We even have a world class advisory board to make sure our focus remains human.

We have a team based in the U.A.E operating on a 24/7 basis.
Our service has dedicated staff, emergency

telephone numbers and call out personnel to serve you better.

We know the future can be uncertain, so we have disaster recovery plans set up. We store your cord blood and cord tissue samples in separate storage locations. We have partner labs in Spain, South Africa and Hong Kong as well as a disaster recovery unit with a PLC in the rare event of the company going bankrupt

Our UK lab is situated 3 miles from Heathrow Airport so that all international samples arrive here as quickly as possible. We have collected samples from over 70 countries and have offices in Europe, Africa, Middle East, Asia and the Far East.



Don't just take our word for it. Read our customer stories and testimonials at www.smartcells.com





## Our Service

The Smart Cells service packages are all-inclusive with no hidden costs. All processing procedures are undertaken in a sterile, controlled environment by specially trained staff.

Smart Cells will give your baby a unique identification number as soon as you decide to order your collection kit from us This number will be clearly marked on all items in your collection kit, ensuring full traceability at all times. As soon as your baby's cord blood is receipted at the laboratory, the processing will start.

When your baby's cord blood arrives at the laboratory the red blood cells and the white blood cells are separated. The white blood cells, including the stem cells and any cells ofcurrent or future therapeutic value, are stored. This is referred to as volume reduced processing or red cell depletion, which is the industry standard method used by leading transplant centres

worldwide. It's also the method we're most experienced in, and it's why we were the first company in the UK to carry out transplants.

Once processing has finished and the volume reduced, the concentrated unit of cord blood stem cells is put into a dual-compartment bag over wrapped and placed into a controlled-rate freezer where the temperature is very slowly reduced to -160°C.

Once it has reached this temperature, the sample is placed into liquid nitrogen vapour in our long term state of the art storage tanks. The sample final storage temperate is -196°C

After we've processed your baby's cord blood, we'll write to confirm the cell count results. Your collection kit will contain all the mandatory paperwork and will also be clearly labelled with your unique ID number. The paperwork must be returned with your baby's cord blood for us to process the sample.



## Our Laboratory

Our laboratory uses state of the art equipment designed to process cord blood as quickly as possible. All processing procedures are undertaken in a sterile, controlled environment by specially trained staff.

- We use the industry standard system for cord blood processing – the Biosafe Sepax system
- The facility is based close to London
   Heathrow airport minimising transportation
   times for customers around the world

- Our Advanced Facilities Management System continually monitors the environment; it's fully alarmed and has an uninterruptible power supply in case of a mains electricity failure
- We hold a full licence from the Human
   Tissue Authority. Our licence number is



ISO9001 – Quality Management Accreditation





# Our Scientific Director



Dr. Ann Smith

As Scientific Director of Smart Cells International (SCI), Ann brings to the company 29 years of experience in the field of stem cell processing, storage, therapeutic transplantation and associated regulations and standards. In her most recent Healthcare post as a Consultant Clinical Scientist, Head of the Stem Cell Transplant Laboratory in the Royal Marsden NHS Foundation Trust, she was responsible for strategic, operational and developmental management of the laboratory which supports service delivery for the UK's busiest Haematology/Oncology clinical Stem Cell Transplant Programme.



For more information on our experts visit us at www.smartcells.com/our-experts

# **Our Transplants**

This significant milestone for the private cord blood storage industry highlights the advances being made in stem cell research and puts a spotlight on a service that many parents-to-be are still unaware of.

Smart Cells was the UK's first private cord blood company and in its 16 years since the company was founded, has released samples to patients all over the world to treat a variety of conditions including Cerebral Palsy, Thalassemia, Leukaemia and HSV Encephalitis.

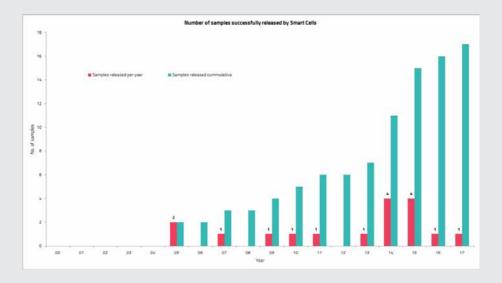




SAMPLES RELEASED



DIFFERENT COUNTRIES SHIPPED TO



SAMPLES RELEASED

**THALASSEMIA** Blood Disorder

HYPOXIC ISCHEMIC ENCEPHALOPATHY (HIE) Neurological Disorder

SEVERE COMBINED IMMUNE DEFICIENCY Immune Disorder

CEREBRAL PALSY Neurological Disorder

**HSV ENCEPHALITIS** Neurological Disorder

LEUKAEMIA

SICKLE CELL DISEASE Blood Disorder

# Frequently Asked Questions

## How long have we been operating?

Smart Cells was founded in 2000 and has been collecting and storing samples ever since.

## ■ What happens if we go out of business?

Establishments licensed by the HTA are legally required to ensure that in the event of activities ceasing, any tissues/cells and records are transferred to another HTA licensed establishment.

You should ensure that your chosen cord blood establishment has an agreement in place with another HTA licensed establishment for the safe storage of the sample in the event of them closing down. Smart Cells currently has this agreement in place with Vindon Scientific PLC.

## ■ Why do we offer various storage plans?

Smart Cells offers various storage plans that enables you to pay up front to store your samples for 25 or more years.

There is currently no evidence to suggest that the health of your stem cells will deteriorate and experts believe that your baby's stem cells will be viable indefinitely. At the end of your contract you will be given the option of extending your storage term or discarding the sample.

### How can the cells be used in the future?

A stem cell transplant is the infusion of healthy stem cells into your body. Stem cell transplants can help your body make enough healthy white blood cells, red blood cells or platelets, and reduce your risk of life-threatening infections, anaemia and bleeding. Stem cell transplants are used to treat people whose stem cells have been damaged by disease or the treatment of a disease.

## Do I have to pay to use the sample later or for transportation?

No additional costs will be incurred for the transportation of the sample at any time for therapeutic use.

## Does it matter if the birth is a Caesarean section or natural?

No. If you have a Caesarean the collection can take place after the delivery of the placenta, as it would with a natural birth. Either birthing scenario is fine for the collection of cord blood and cord tissue stem cells.



### Who collects the samples?

The collection must be performed by a trained and licensed healthcare professional. This could be a private obstetrician or midwife or an assigned phlebotomist.

The Human Tissue Authority (HTA) requires the person who performs the collection to be appropriately trained in the Smart Cells collection process

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#### Can I still delay the clamping of the cord?

Yes, you can still delay the clamping of the cord. It is recommended however that the cord blood is collected before pulsating stops. A prolonged delay will mean that the blood begins to clot which will affect the volume of blood available for the collection. If clamping is delayed, it should be between 1–3 minutes, as advised by the World Health Organisation. A timed delay will mean that your baby will benefit from the delayed clamping as well as having their cord blood stem cells stored for future use.



For general enquiries, or to order your stem cell collection kit, please contact us:

## Iranian Hospital Dubai

Dr. Saba Habibollah +971 4 344 0250 (Ext. 8356)

Mobile: +971 56 6948013 (On-call Hospital Supervisor) Email: habibollah.s@ihd.ae P.O. Box: 2330, Al Wasl Road, Dubai, UAE

## Smart Cells International Dubai

+971 4 429 8382

Email: uae@smartcells.com Bldg A/P26, G03, Dubai Health Care City, P.O. Box: 505096, Dubai, UAE.

Iranian Hospital: +971 4 3440 250 (Ext. 8356) Smart Cells: +971 4 4298 382

# Steps to Collect خطوات التخزين



## الاتصال CALL

Please contact the Iranian Hospital to discuss collecting your baby's stem cells. Once you are happy to proceed and have made the advance payment, we will prepare your kit and deliver to your doctor.

يرجى الاتصال بالمستشفى الإيراني لمناقشة قرار جمع الخلايا الجذعية لطفلك.في حال انك اخذت القرار بالاحتفاظ بعينة الخلايا الجذعية لطفلك وقمت بدفع الدفعة الاولى سيتم تحضير صندوق التخزين الخاص بك .وتوصيله الى طبيبك المختص

Collection will be made by your doctor on the day of delivery.

جمع العينة سوف يتم من قبل طبيبك المختص في يوم الولادة



التخزين



## STORE

Right after your sample reaches our laboratory, testing, processing and storage takes place and within 4-5 working days, certificates of storage will be available with your doctor.

بمجرد وصول العينة الى مختبراتنا سيتم فحص وتحليل العينة من ثم تخزينها خلال ٤-٥ ايام عمل. شهادة تخزين العينة سوف تكون جاهزة مع طبيبك .المختص

# Price

## Cord Blood and Cord Tissue processing and storage fee for 25 years

# AED 9,900

## All inclusive fee provides

- Stem cells collection kit
- Medical express courier to UK Laboratory
- Total number of cells captured
- Cord blood sterility test
- Maternal blood test
- Medical expertise and advice
- Free shipment to anywhere in the world for transplant purposes
- Full refund of storage fee AED 5,000 if sample is used in the first year
- No additional fee for contracted period
- Where only the cord tissue is successfully stored, we will refund AED 5,000 for the cord blood

# Testimonials

## Rochelle Makwana

"We knew we wanted to definitely save our baby's cord blood and tissue when I got pregnant. It was just a matter of which company we would ultimately go with.

After meeting with various companies, my husband and I chose Smart Cells because there were no false promises and every bit of information was given to us. I not only found their service to be great but their packages were very reasonable and value for money.

Many of my friends who delivered after me have chosen them as well and we have had the same excellent service given every time. I would highly recommend Smart Cells to anyone looking to bank their baby's cord blood and tissue without any hesitation."

## Ayoub Wakileh

"There are many stem cells banking companies, however, very few understood the mental and financial burden expecting parents undergo. Smart Cells were extremely helpful and flexible throughout the entire process, and I would highly recommend their services."

## رولا تادروس

"كنا نرغب بمعرفة المزيد عن حفظ الخلايا الجذعية لدم و نسيج مولودنا الجديد و بعد استشارة الطبيب نصحنا بسمارت سلز، تواصلنا معهم كما تواصلنا مع عدد مــن الشــركات الأخرى المنافســة إلا اننا وجدنا أن ســمارت ســلز لديها كافة المعلومات العلمية و الدقيقة التي تســاعدك في اتخاذ قرارك هذا بالإضافة إلى طاقمهــم المميــز و المــدرّب للإجابة علــى كافة استفســاراتك و تســاؤلاتك."

## مجيده الجاسم

"كنت أنوي تخزين الخلايا الجذعية لمولودي القادم الا أنني تفاجئت بأنني حامل بثلاث توائم، هنا بدأت رحلة البحث للتأكد من امكانية حفظ الخلايا الجذعية لأطفالي الثلاث. قمت بالاتصال بالعديد من الشركات الا انني وجدت أن سمارت سلز والطاقم المدرب لديها لديهم من الخبرة و المعلومات ما جعلني أثق بهم. كانت خدمتهم رائعة و قمت بتخزين خلايا اطفالي الجذعية بنجاح"

Success stories from 'Smart Cells'

Thalassemia free, living life to the full

Back in 2008, a seven-year-old Emirati boy Ahmed Mohamed became one of the first UAE residents to benefit from his parent's foresight. They had stored the stem cells of his younger sister Anoud and it was

this sample which was used to treat his life-limiting blood disorder called Thalassemia.

The successful transplant took place in Germany and today Ahmed is medication free, Thalassemia free

and living life to the full.

Remarkable recovery from Cerebral Palsy

Kyle & Carla are currently living in Botswana, got in touch with Smart Cells to discuss the possibility of storing their unborn child's umbilical cord blood and tissue stem cells. At the time they had no idea just

how important that decision was going to be. In March 2013, their little girl, Paige, was born at The

Portland Hospital for Women & Children in London.

Carla then got back in touch in February 2014 to let us know the news that Paige had been diagnosed with

Cerebral Palsy. In the coming months Kyle & Carla and the team at Smart Cells worked together to provide

the hospital with all the information required for the transplant. In April 2014, Smart Cells released and shipped their cord blood to Duke University Hospital North Carolina, USA for use in the transplant.

Carla told us "We are just so grateful that we had the opportunity to save Paige's cord blood stem cells . It

is possibly the best investment you could ever make for your child. You never know what is going to

happen in 10-15 year's time."

Before the treatment and at the age of 6 months, Paige could not sit and spent most of her time with her

right little hand in a fist and her toes curled up.

Iranian Hospital: +971 4 3440 250 (Ext. 8356) Smart Cells: +971 4 4298 382

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# قصص نجاح لعائلات خزنت الخلايا الجذعية لاطفالها مع سمارت سلز قصة نجاح لعلاج مرض الثلاسيميا

أحمد محمد الطفل الإماراتي ذو السبع اعوام كان اول الإماراتيين المستفيدين من العلاج بالخلايا الجذعية حيث كان يعاني من مرض الثلاسيميا ، لم تنته معاناة أحمد و عائلته إلا مع ولادة أخته "العنود" التي منحت حياة جديدة لشقيقها بعد أن أثبتت عينة دم الحبل السري التي أخذت منها تطابقا كاملا مع أخيها.

تم ارسال العينة التي تم تخزينها لدى سمارت سلز الى المانيا حيث تمت معالجة أحمد هناك. أحمد الان يتمتع بصحة جيدة و قد توقف عن أخذ اي علاج ولا تجرى له أي عملية نقل دم.

# قصة نجاح لعلاج مرض شلل الاطفال تطور ملحوظ لحالة شلل الاطفال

كايل وكارلا يعيشون حاليا في بوتسوانا، قامو بالتواصل مع سمارت سلز لمعرفة امكانية تخزين دم و نسيج الحبل السري لمولودهما القادم في ذلك الوقت لم يكن الوالدان مدركين اهمية اتخاذ مثل هذا القرار. في شهر مارس من عام٢٠١٣ ولدت ابنتهم "بياج" في مستشفى بورت لاند في لندن.

في فبراير ٢٠١٤ تواصلت كارلا مع سمارت سلز لاعلامهم بأن أبنتها "بياج" تم تشخيصها بمرض شلل الأطفال ومنذ ذلك الوقت كارلا، كايل والطاقم الطبي في سمارت سلز يعملون جميعا من أجل تزويد المستشفى بكافة المعلومات اللازمة للزراعة. في ابريل ٢٠١٤ تم تصدير و شحن العينة من مختبرات سمارت سلز الى مستشفى ديوك الجامعي في شمال كارولينا في الولايات المتحدة الامريكية لتستخدم في عملية الزراعة.

تخبرنا كارلا" كم نحن ممتنين أننا قمنا باتخاذ هذا القرار وخزننا خلايا "بياج" الجذعية، انه أفضل استثمار قد تفعله لطفلك على الاطلاق، انك لا تعلم ما يخبىء لك المستقبل و ماذا سيحصل في ال ١٠-١٥ اعوام القادمة".

قبل العلاج و في عمر الست أشهر كانت "بياج" لا تستطيع الجلوس ومعظم الوقت يدها اليمنى مقبوضة و أصابعها ملتين.

" بعد العلاج بالخلايا الجذعية والعلاج الطبيعي أصبحت بياج قادره على الزحف لم نكن نتخيل أنها ستتمكن من ذلك يوما ما، كما أصبح بامكانها سحب نفسها على الاثاث أو حتى الوقوف وهي تمسك يدي"

## لماذا سمارت سلز ؟

- سمارت سلز بدأت بالعمل في الإمارات العربية المتحدة منذ عام ٢٠٠١.
- ∎ســمارت ســلز لديهــا العديد من عمليات زرع الخلايــا الناجحة حول العالم.
- ■سمارت سـلز تقوم بجمع الخلايا الجذعية من أكثر من ٧٠ دولة حول العالم بدءا بأوروبا، أسـيا، افريقيا، الشرق الاوسط وحتى أمريكا.
- ■لدى سمارت سلز طاقمها المدرب الخاص والذي يمكنك التواصل معه ٢٤ سـاعة ٧ أيـام فـي الأسـبوع للإستفسـار وطلب المساعده حول ما تريد.
- @ habibollah.s@ihd.ae
- @ uae@smartcells.com
- مختبرات سمارت سلز مجهزة بكافة المستلزمات الطبية و حائزة على التراخيص اللازمة من قبل هيئة الأنسجة البشرية في بريطانيا و تحت إشراف طاقم طبي متخصص.
- ■ليس لدينا أي تكاليف غير معلنة في سمارت سلز .
- ■سمارت سلز تستخدم تقنية تخزين قياســية وفائقة التطور عن طريق فصل مكونات الدم وتخزين الخلايا الجذعيــة لوحدهــا وذلــك لتقليــل حــدوث التفاعــلات المحتملــة بين مكونات الدم خلال فتــرة التخزين هــذا وتوفــر هــذه الاليــة امكانية الحصول على عينة ذات تركيز أعلى وحجم أقل.

# الأسعار:

## كلفة تخزين دم و نسيج الحبل السري لمدة ٢٥ عام

درهم ۹٫۹۰۰

## هذا السعر يتضمن كافة المصاريف وهي:

- كلفة صندوق التخزين
- مصاريف شحن العينة لمختبراتنا في بريطانيا
  - كافة الخلابا الحذعبة المحمعة
  - فحوصات التعقيم لعينة الحبل السري
- عدد من الفحوصات المخبرية تجرى لدم الام
  - الاستشارة الطبية من قبل المختصين
- شحن العينة لاي مكان في العالم لغايات العلاج بدون اي مصاريف اضافية
  - امكانية استرجاع كامل المبلغ في حال تم استخدام العينة لغايات العلاج خلال السنة الاولى من العقد
    - لا توجد اي مصاريف اضافية خلال كامل مدة العقد
- استرجاع ٥٠٠٠ درهم من المبلغ الكلي في حال عدم امكانية تخزين عينة
   دم الحبل السرى وتخزين النسيج فقط

# عمليات الزراعة لدى سمارت سلز

## ١٦ عينة من الخلايا الجذعية تم استخدامهم لغايات العلاج.



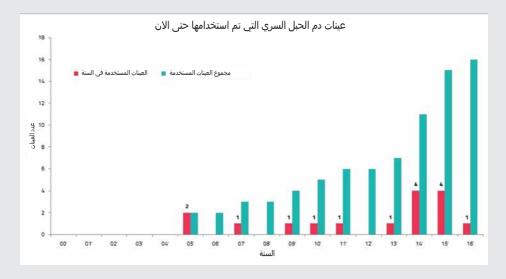
أول عملية زراعة لدينا كانت عام



عدد العينات التي تم ارستخدامهم في الزراعة هو ١٦ عينة



تم ترحيل العينات لغايات العلاج إلى ٥ بلدان مختلفة حول العالم



سرطان الدم سرطان

فقر الدم المنجلي اضطرابات الدم کے حالات شلل دماغی اضطرابات عصبیة

> التهاب الدماغ اضطرابات عصبية

حالات ثلاسيميا اضطرابات دموية

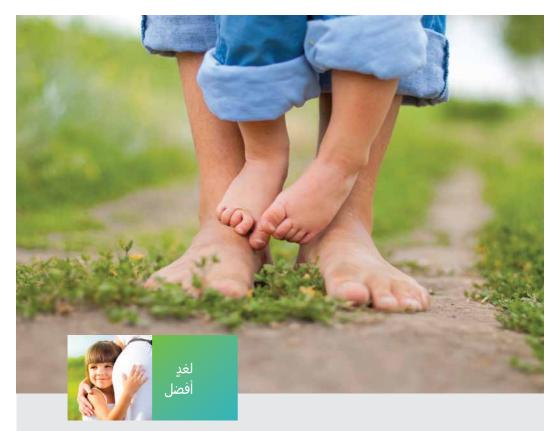
نقص الاوكسجين الدماغي اضطرابات عصبية

عوز المناعة المشتركة الحاد اضطرابات مناعية

Q

**٦** ٦ عينة تم استخدامها

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# ما هي الأمراض التي أصبح بإمكان الخلايا الجذعية علاجها ؟

- أمراض الدم : الثلاسيميا، فقر الدم المنجلي (الأنيميا).
  - الأمراض المناعية.
- الأمراض العصبية : الشلل الدماغي، اعتلالات الحبل الشوكي.
  - سرطانات الدم :اللوكيميا ، الليمفوما.

هذا وهناك العديد من الأبحاث قيد الدراسة لعلاج أمراض أخرى بإستخدام الخلايا الجذعية مثل :

السكري ، الروماتزم، الشلل الرعاشي(الباركنسون)، نقص تروية القلب، الزهايمر، التصلب اللويحي المتعدد ، التوحد وغيرها.

تمتاز هـذه الخلايـا بإمكانية عزلها بسـهولة بلإضافـة إلـى إمكانيـة تمايزها إلى عـدة أنواع أخرى من الخلايا التي يمكن لها أن تكون فيما بعـد الأنسـجة كنسـيج العظـم، العضلة القلبية، الغضاريف وغيرها. مما يسـاعد في عـلاج العديد من الأمراض الأخرى.

## ما الفائده مـن تخزين الخلايا الجذعية ؟

هنالك العديد من الأمراض التي لم يتمكن العلـم مـن إيجـاد العلاج الملائم والأمثل لها مثل : الثلاسيميا، فقـر الـدم المنجلـي (الأنيميـا)، سـرطان الدم (اللوكيميـا) وغيرها الكثيـر. هذه الأمراض تمكنت تقنية زراعة الخلايـا الجذعية من علاجها عن طريق إمكانية إستبدال الخلايا المصابة بخلايا جذعية سليمة والتي بدورهـا تعيد بنـاء خلايـا دموية، مناعية سليمة.

## أمراض الدم الوراثية

تعتبــر أمــراض الــدم الوراثية من الأمراض الشائعة والمستوطنة في بلادنــا والبــلاد العربيــة عامة وقد ســاعد على إنتشــار هـــذا المرض عــادات وتقاليد المجتمــع وتحديدا زواج الأقارب.

ومــن أهــم هــذه الأمــراض إضطرابــات صنــع الهيموغلوبيــن (خضاب الدم) مما ينتج عنه أمراض فقــر الــدم المنجلي وأنيميــا البحر الأبيض المتوسط (الثلاسيميا) التي تــؤدي الى تكســر الــدم فاصفرار الجســم وتضخم الكبــد والطحال وبالتالــي الحاجــة الى نقــل الدم المتكرر.

تعتبر زراعـة الخلايا الجذعية لعلاج المرضـى الذيـن حدثـت لهـم مضاعفـات خطيـرة مثـل الجلطة الدماغية أو تطلبت حالتهم نقل الدم السّه- وذلـك لأن الخلايـا الجذعيـة السّـري لا يهاجمها الجهاز المناعي للمريض لأنها لا تحتوي على المواد التـي تؤدي الى رفضها من جسـم المريض المعالج وذلك لإن نسـبة التطابـق ١٠٠ ٪ هذا و من المحتمل النطبـق هـذا التوافق على بقية أفراد الأسرة.

و من الجدير بالذكر أنه لدى سمارت سلز حالة ثلاسيميا في الإمارات العربية المتحدة تمت معالجتها بنجاح باستخدام تقنية زراعة الخلايا الجذعية.



الخلايا الجذعية معجزة القرن الواحد والعشرين لكونها تبشر في إيجاد حد للكثير من الأمراض المزمنة، كما بإمكانها وقاية الانسان من التعرض لأمراض محتملة في المستقبل.

## حفظ الخلايا الجذعية لمولودك الحديد

## ما هي الخلايا الجذعية ؟

الخلايا الجذعيه هي خلايا النشـوء الأساسـي للجنين وهي عبارة عن خلايا لها القابلية للإنقسـام والتكاثر فـي فترة معينة مـن الزمن لتؤلف وتشـكل الدم ، العظام ،الأنسجة ، الأوتار ومن ثم الأعضاء.

هـذه الخلايا لهـا القـدرة الوافرة للتخصـص الـى خلايـا جذعية لها القابلية لترميم أجسـامنا حين نكبر ونحتاج لذلك.

# مــن أيــن نحصل علــى على الخلايا الجذعية؟

نحن في سـمارت سلز نقوم بجمع الخلايــا الجذعيــة من دم ونســيج الحبــل الســري الذي يتميــز بوفرة الخلايا الجذعية فيــه كما أن عملية اســتخلاص الخلايا منه لا تستغرق سوى عشرة دقائق.

يوفــر دم الحبــل الســري نوع من الخلايــا الجذعية الهامــة في علاج العديــد من الأمراض إلا أن نســيج الحبل الســري نفســه يحتوي على نوع أخر من الخلايا الجذعية يدعى (Mesenchymal stem cell).

# Notes



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