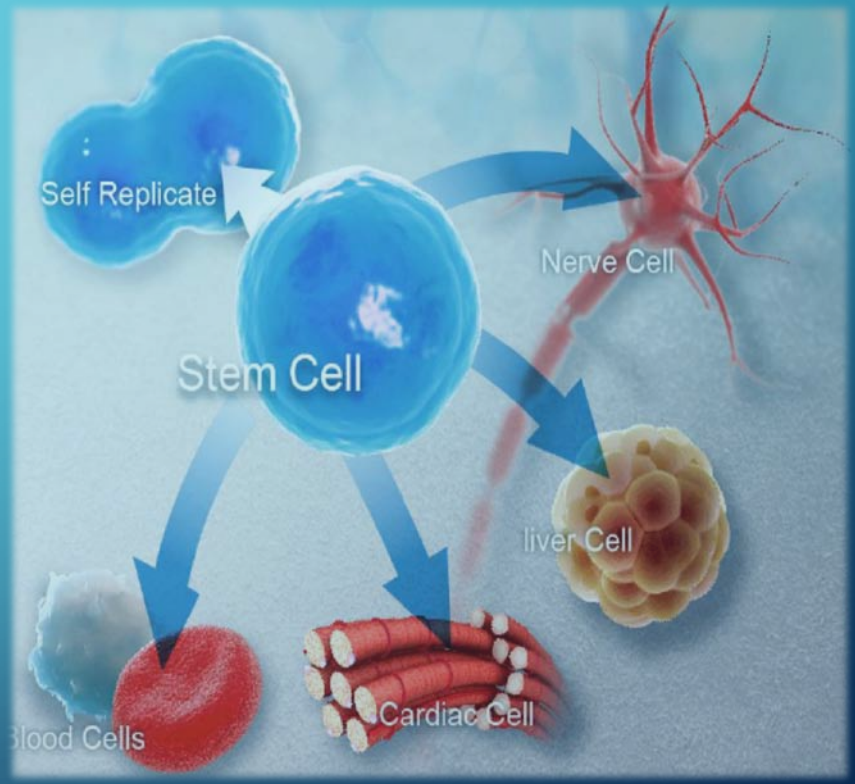
BMT

BIOACTIVE MOLECULAR TECHNOLOGY

BMT

What is it?

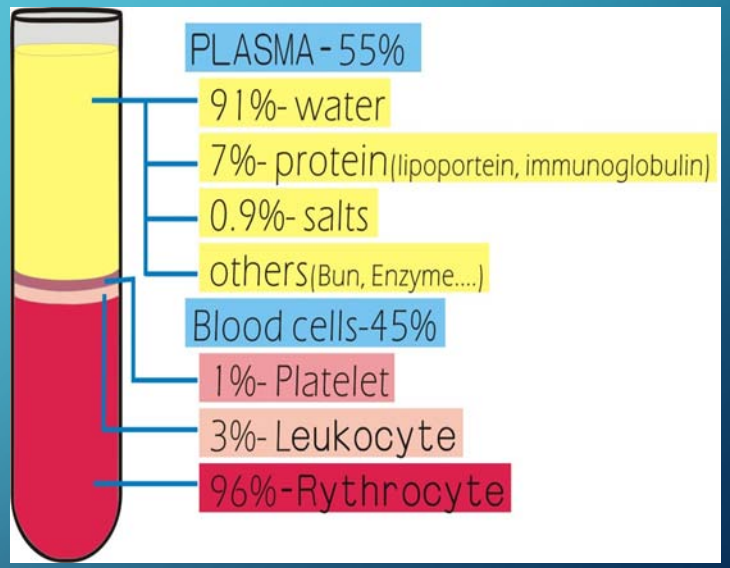
- Platelet rich plasma that has two primary functions that differ from other bodily cells
- Self-renewal: the ability to replicate while maintaining the undifferentiated state of the stem cells
- Differentiation: the ability to differentiate (transform) into other cells types of the body.
- Both functions work to repair, replace, regenerate damaged tissue in the body



BMT

What is it?

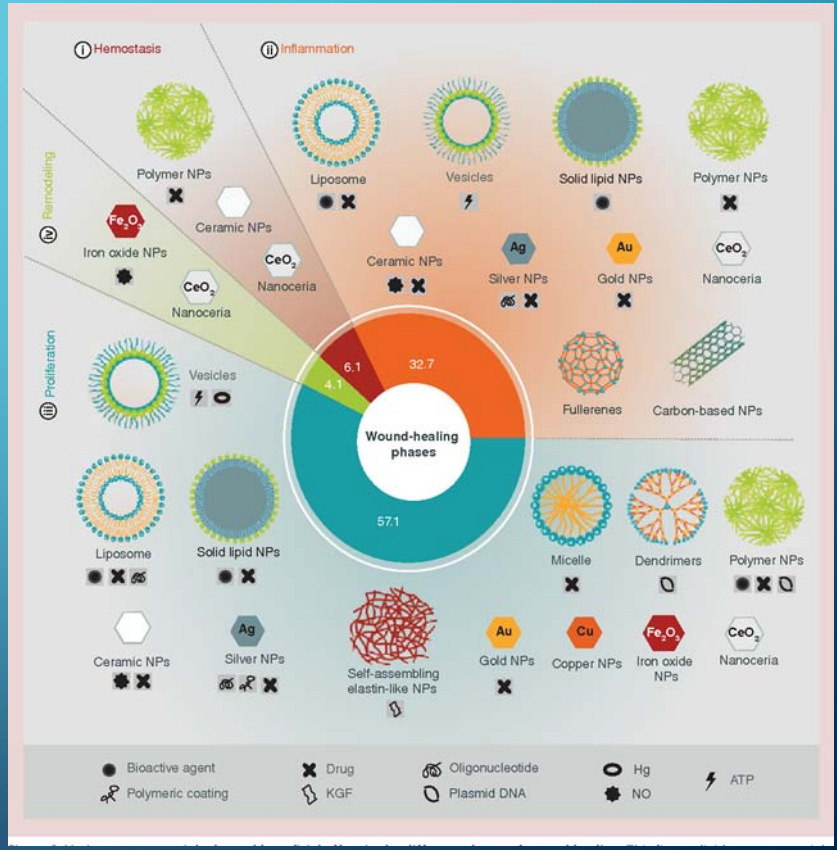
- “Bio-active molecules” is an umbrella term that includes the body’s biological material involved in healing and regeneration
- Bioactive molecular therapy harnesses these material to trigger the body’s innate healing response to injury
- Bioactive Molecular Therapy
- A “cocktail” of blood components, including red blood cells, white blood cells, platelets, and growth factor proteins in varying proportions
- A significant proportion of growth factors and signalling molecules are secreted by platelets when “activated”



BMT

Mode of Action:

- “Bio-active molecules” rely on both stimulatory effects and inhibitory effects
- Stimulate reparative and regenerative functions
- Inhibit pro-inflammatory signalling proteins
- This minimises tissue breakdown and enhances repair



BMT

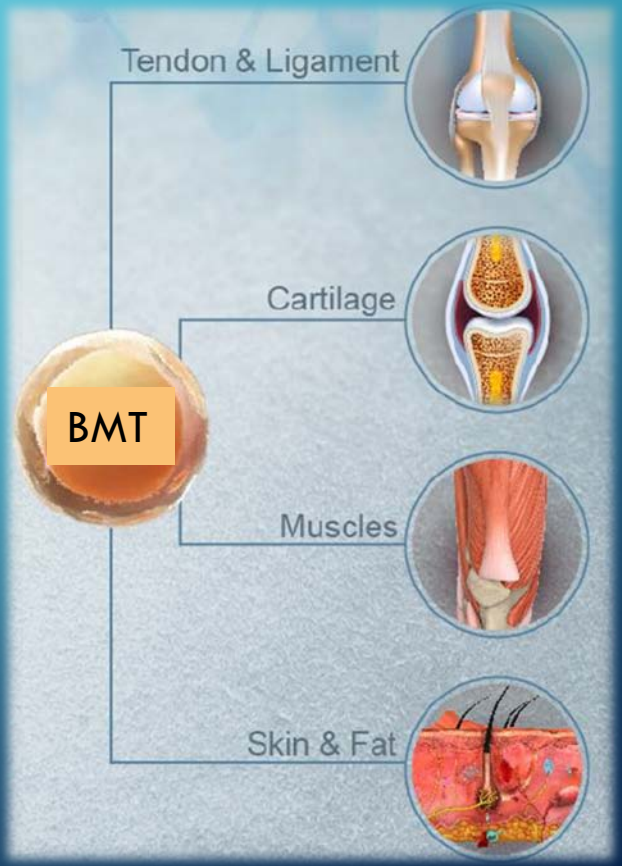
Preparation:

- Collection of blood between 80-150mL of peripheral blood
- Blood to be immediately separated and processed within 15 minutes prior to platelet activation
- Final separated product approximately 10 to 40mL in a blood collection bag, ready to injected depending on client bloods.

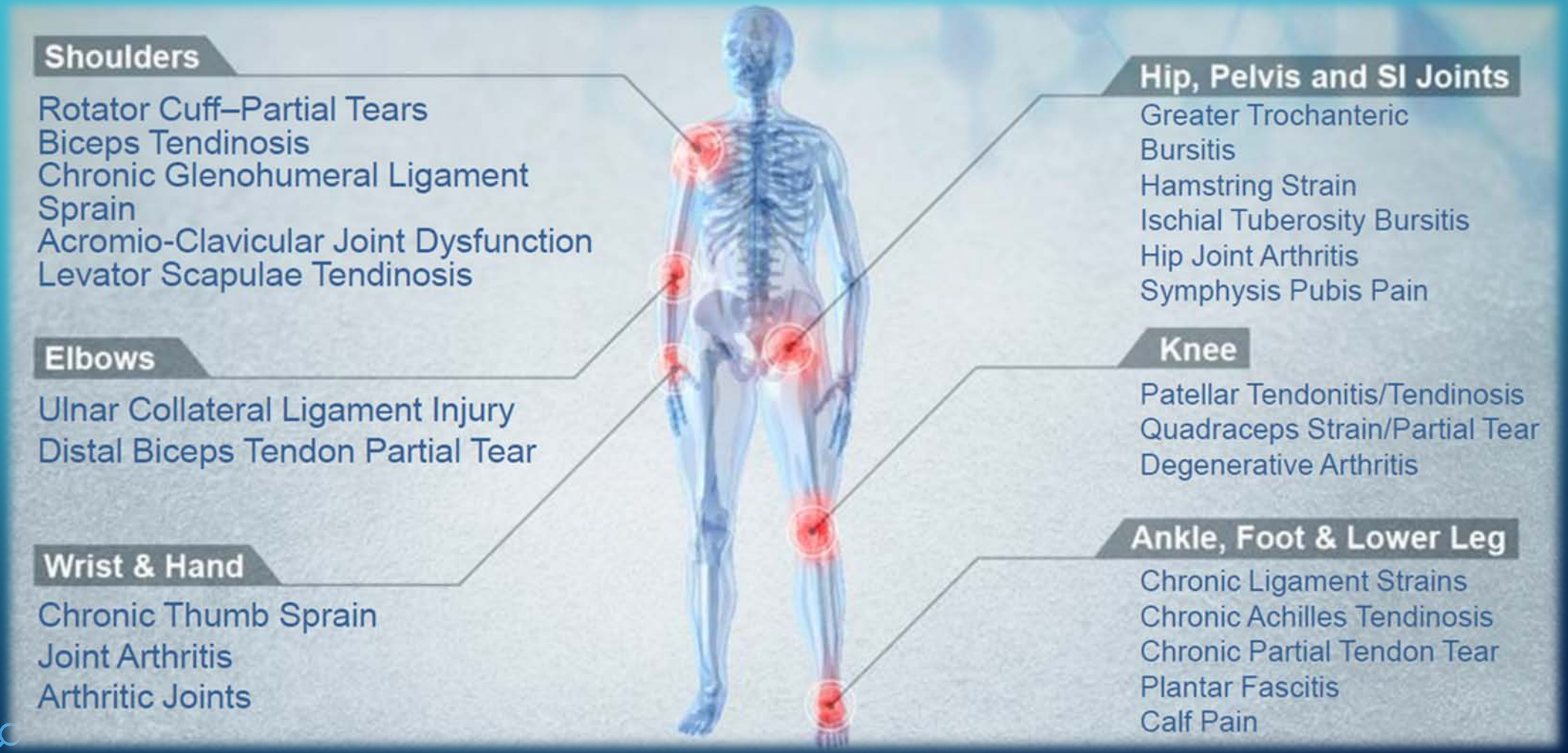
BMT

Bio-active molecular cells rejuvenate and transform into many different tissues such as:

- Bone, muscle, skin, cartilage or any form of tissue
- Commonly used in joints, soft tissues, and repair of sports injuries and osteoarthritis
- Extensive research and development on BMT has resulted in practical clinical treatments being provided within a respectable time frame.



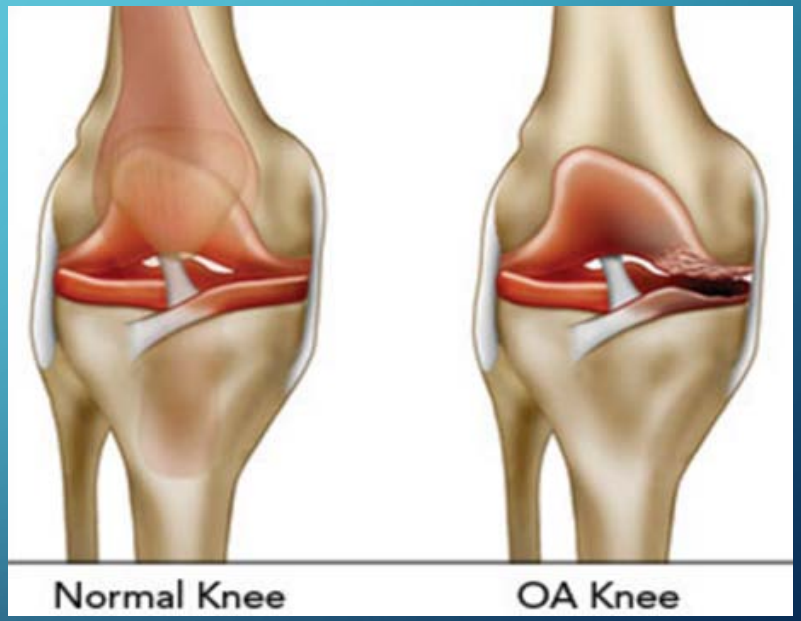
BMT


Shoulders
Rotator Cuff–Partial Tears
Biceps Tendinosis
Chronic Glenohumeral Ligament Sprain
Acromio-Clavicular Joint Dysfunction
Levator Scapulae Tendinosis
Elbows
Ulnar Collateral Ligament Injury
Distal Biceps Tendon Partial Tear
Wrist & Hand
Chronic Thumb Sprain
Joint Arthritis
Arthritic Joints
Hip, Pelvis and SI Joints
Greater Trochanteric Bursitis
Hamstring Strain
Ischial Tuberosity Bursitis
Hip Joint Arthritis
Symphysis Pubis Pain
Knee
Patellar Tendonitis/Tendinosis
Quadraceps Strain/Partial Tear
Degenerative Arthritis
Ankle, Foot & Lower Leg
Chronic Ligament Strains
Chronic Achilles Tendinosis
Chronic Partial Tendon Tear
Plantar Fascitis
Calf Pain

BMT

Proven Efficacy:

- Particularly effective on osteoarthritis of the knee
- Reduced pain, and improved joint function observed in multiple clinical studies
- More cost-effective for small joint and mobility ailments
- Autologous = no risk of transplant rejection
- Quick turnaround time



Limitations:

- Ineffective in moderate to severe ailments as BMT does not provide additional resources (stem cells) for repair

BMT

- For joint and soft tissue injections we collect the BMT materials and inject from 3-10ml into identified location.
- Depending on where the injection site is, this will determine how much product will be injected.
- Within the first week post injection there will be noticeable improvement in joint or soft tissue area.
- The cells are activated within 20mins of injection and each cell life is upto 28 days.

BMT

Bio-active Molecular therapy is also used in cosmetics:

- By injecting into the dermis layer and the subcutaneous layer of the skin, BMT rejuvenates and repairs aging skin by helping it to return skin to it's previous youthful look.
- With aging you deplete the fat pads and bone density within your face.
- This procedure can be preformed on neck and hands as well.
- You have a much longer rejuvenation from BMT then botox or fillers as these toxins only last for up to 5 months, BMT last at least four times longer depending on the clients fitness level.

BMT


Frown Lines
Nasolabial Folds
Perioral Lines
Mental Crease
Forehead
Crow's Feet
Tear Trough
(under eye liner)
Marionette Lines / Jowls

BMT

- BMT on Osteoarthritis
- Research in Regenerative Medicine in the last decades, has shaped new investigational biological preparations that can be injected within the joints:

- The initial idea of BMTs (Bioactive Molecular Technology) therapies was to replace damaged or death cells, but has moved towards using BMT as a tool to modify the tissue environment.

- The concept is based on the paracrine actions of BMT, hence the major biological mechanisms that are being targeted by these therapies are inflammation, angiogenesis or modifications of the catabolic environment.

BMT

Why use BMT?

It has been proven to be:

- Safe
- Effective
- Cost effective-
- Availability in an easy-to-develop manner and
- CE/FDA approval if developed by an CE/FDA-cleared device.
- Bioactive Molecules seams able to enhance MSC Proliferation and Chondrogenic Differentiation
- The values of Bioactive Molecules (platelet Rich Plasma):
- * increase anabolic effect on chondrocytes
- * decrease catabolic effect in the inflammatory environment

BMT

Safety Standards

- Recognized by the Australian TGA Ordered Goods Exemption in 2011
- Human therapeutic use of the product may only be conducted by Australian-registered medical practitioners
- Production laboratory is compliant with ISO9001:2008 standards for quality assurance
- All samples must be tested by contamination testing laboratories accredited by the NATA
- Regulatory compliance allows medical insurance coverage by Lloyd's of London for up to AUD20 million.

Australian Government
Department of Health and Ageing
Therapeutic Goods Administration

LLOYD'S
LLOYD'S OF LONDON

AMPC

What are they?

• Self-renewing cells with multi-lineage differentiation potential: not confined to differentiating into only one cell group (such as blood cells).

• Dedifferentiated from adult white blood cells What can they do?

• Demonstrated ability to transform into neurons (ectoderm), osteoblasts (mesoderm), cardiac cells (mesoderm), and liver cells (endoderm).

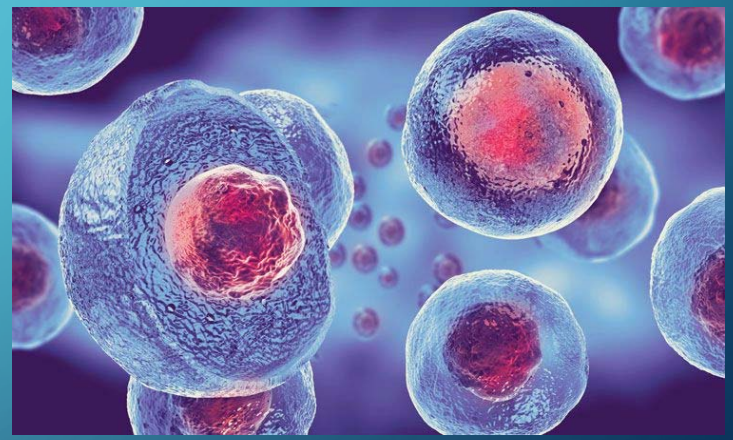
• Receptive to the body's chemical signals, thus recognising sites that require stem cell regenerative effects for bodily repair (homing effect).

What sets them apart?

• Wide range of differentiation allows therapeutic effect for large scope of degenerative diseases, including arthritis, leukaemia, cardiovascular disease, and kidney and liver disease.

• Insurance coverage offers comprehensive protection for patients and medical practitioners. No claims have been made to date.

• Homing effect identifies priority sites for regenerative effects



TGA COMPLIANT

- Over 300 cases of reinfusion with: Regulatory Compliance
- Compliant with Therapeutic Goods (Excluded Goods) Order No. 1 of 2011
- Conditionally allows for therapeutic use on humans:
- Must be collected from a patient who is under the clinical care and treatment of a medical practitioner registered under a law of a State or an internal Territory
- Must be manufactured by medical practitioner or by a person under the professional supervision of that medical practitioner
- Must be used in a single indication and in a single course of treatment of that patient by the same medical practitioner • Updated in 2018 with grace period of 1 year.
- Medical Insurance Coverage
- By Lloyd's of London for up to AUD 20 million
- No claims have been made

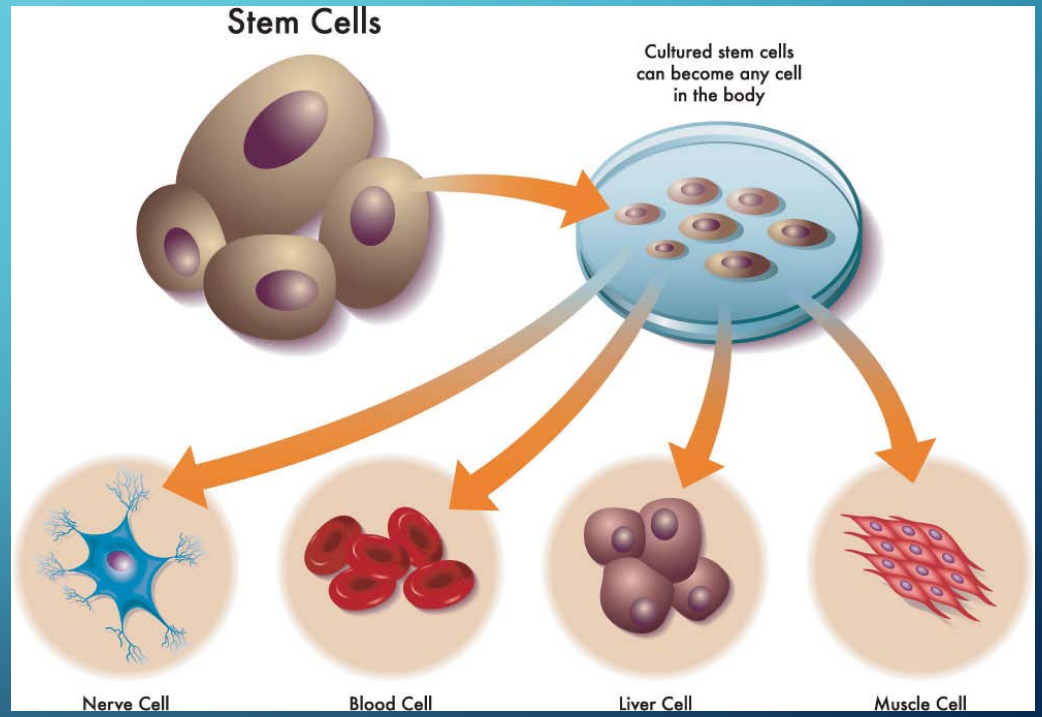
LLOYD'S
LLOYD'S OF LONDON

PATENT STEPS FOR AMPC CULTURES: BLOOD COLLECTION:

- ✓ Blood collection similar to that of blood donations
- ✓ Collects up to 250mL to 400mL peripheral blood depending on patient fitness
- ✓ Minimally invasive procedure

CELL SEPARATION AND CULTURE

- White blood cell is separated from the blood by centrifugation
- White blood cells cultured for 4 to 6 days according to ASCT's proprietary method
- No genetic manipulation or antibiotics added



SAFETY AND QUALITY ASSURANCE

- Samples are analysed by external laboratory accredited by the National Association of Testing Authorities(NATA) for:
- Endotoxins
- Bioburdens
- Mycoplasma
- Microbials

Mycoplasma

REINFUSION

- Subcutaneous allergy test (~1mL of sample)
- AMPC reinfused into the body
- Reinfusion routes may be varied by the medical practitioner depending on treatment (e.g.: local injections into the knee and skin post infusion)

THE END