



TALKIN' BOUT MY RE-Generation

Nicole Bell trials Regen Lab's platelet-rich plasma procedure for anti-ageing and aesthetic rejuvenation.

REGEN LAB is a medical technique developed in Switzerland for the treatment of dermatological and surgical conditions such as chronic wound care, orthopedic, plastic, cardiology, sports medicine and regeneration of ageing and damaged skin.

To date Regen Lab is used throughout Europe, Asia, Australia and New Zealand. Nicole Bell, founder of Face Today Clinic, has been trialing the procedure for several months, during which time she has performed over 400 treatments. "The client acceptance and satisfaction rate is very high, so much so that we don't have a single patient at this point who isn't pleased with their current results after the setting of realistic expectations and time lines," says Bell.

WHAT IS REGEN LAB?

The process is based on a scientifically advanced test tube gel and the method of "autologous regenerative medicine" using the client's own bioactive, platelet rich plasma – PRP. Platelets consist of granules which store multiple growth factors with the aim of regenerating aged and damaged skin and hypodermal tissue. Further still, the plasma contains white blood cells which stimulate the micro vascularisation. This means the regeneration is via bio-stimulation and described as "autologous cellular rejuvenation" (ACR) with platelet-rich plasma (PRP).

The injected autologous platelet rich plasma acts as a biologic scaffold that comprises a "structure and signals" process and includes the five major steps of physiological wound healing:

1. Formation of a tri-dimensional fibrin strand including platelets and white blood cells that functions as a bio-active "scaffold."

2. Platelet-mediated release of growth factors in their biologically determined ratios.
3. Chemo-attraction of macrophages and stem cells to the site of bio-active "scaffold."
4. Stem cell proliferation (mitosis).
5. Stem cell differentiation in vicinity of bio-active "scaffold."

Preparation Process:

1. Venapuncture requiring only 8ml whole blood per tube.
2. Separation of plasma and platelets from red blood cells is via centrifugation taking only 10 minutes and delivering 5ml of plasma from the original 8ml whole blood.
3. Simplified plasma "enrichment" process to form platelet rich plasma (PRP) via aspiration of platelet poor plasma (PPP) prior to platelet activation.
4. Platelet activation via CaCl₂ or biological thrombin to stimulate platelet release of growth factors and chemo-attraction molecules.
5. Intra-dermal and/or hypodermal injection (or topical spray) of either PRP-solution (PRP + CaCl₂) or PRP-gel (PRP + biological thrombin).
6. The preparation process is possible in the clinician's rooms, a hospital (ward, accident and emergency department or operating theatre) or in a laboratory.

The Benefits:

1. Tissue regeneration and rejuvenation: neo-collagenesis, neo-vascularisation, bone mineralisation and extracellular matrix formation.
2. Non-allergenic because it is a "body-own" physiological product vs. an animal-derived or human-donor (allo) products.

3. Elimination of donor transmissible infections.
4. Biological glue for tissue adhesion especially in skin flaps, bone grafts and trauma.
5. Haemostasis inter-surgery, post-surgery or post-traumatic.
6. Increase in the rate of the healing process following surgery or trauma (e.g. combined with autologous topical keratinocytes in burns).
7. Beta-endorphins present in plasma contribute to a reduction in post surgery or trauma pain.
8. Physiological “antibiotic” as a result of anti-bodies and white blood cells present in plasma.
9. Tissue engineering (TE) *in vitro* autologous tissue culture medium for cellular expansion of several cell types e.g. fibroblasts, chondrocytes, myoblasts, keratinocytes and white blood cells *etc*).
10. This dermal injection technique utilises the body’s own tissue to restore, regenerate and rejuvenate the aged and damaged skin, and other connective tissues including the mineralisation of bone.

Applications include:

1. Tissue engineering and research and development
2. Plastic surgery
3. Dermatology
4. Dentistry and oral surgery
5. Maxillo-facial surgery
6. Cardio-vascular surgery
7. Orthopaedic surgery
8. Gastro-enterology
9. Urology

Cosmetic dermal and hypodermal indications:

1. Autologous dermal or hypodermal volumetric regeneration (filling effect)
 2. Autologous epidermal rejuvenation (improved skin texture)
 3. Autologous enhanced chronic wound healing (ulceration and burns)
- Growth factors play a role in cell division, migration, differentiation, protein expression, enzyme production and have potential ability to heal wounds by stimulating angiogenesis and cellular proliferation, affecting the production and the degradation of the extracellular matrix, and by being chemotactic for inflammatory cells and fibroblasts. There are seven major families of growth factors: epidermal growth factor (EGF), transforming growth factor-beta (TGF-beta), insulin-like growth factor (IGF), platelet-derived growth factor (PDGF), fibroblast growth factor (FGF), interleukins (ILs), and colony-stimulating factor (CSF).

In less than 10 minutes, a Regen Test Tube recovers 90 per cent of the cells. Previously, this process was a long, complicated and expensive. It was performed in a science lab and the plasma was poor in platelets, reports Regen Lab.

THE PROCESS

Preparation is simple, quick and completed on the physician’s premises. Prior to treatment a simple blood sample of 8-20mls is extracted from the patient. This blood is immediately placed in the centrifuge for eight minutes. When centrifugation is complete the plasma will be separated from the red blood cells. The platelet rich plasma combined with calcium chloride is injected into the skin.

The entire treatment takes approximately 45 minutes per two to four test tubes.

INDICATIONS FOR USE

Orbital rim
Necks
Cheeks and mid-face
Crepey skin on the neck
Back of the hands
Décolletage
Other body areas, including knees, thighs, arms, stomachs *etc*.

TRIAL DETAILS

Face Today Medi Clinic was invited to trial Regen Lab due to the ethical professionalism of the cosmetic practitioners, the RN cosmetic injectors and the artistic talent of their facial contouring. Australasian Medical and Scientific also distribute Radiesse and Face Today Medi Clinic is an establishment for Radiesse facial contouring training. Regen Lab and Radiesse work extremely well together and meet the criteria for safety, patient satisfaction and achieving the perfect contour.

FINDINGS

Regen Lab is autologous regenerative medicine. DNA and cellular structure is damaged over time, particularly as a result of the harsh Australian climate. Dermal fillers work effectively to temporarily fill wrinkles but PRP repairs at a cellular level stimulating growth factors and bio-stimulating damaged cells. Neck, peri orbital rim, peri-oral, hands, body areas (loose skin on stomachs, arms, knees) and fine lines showed dramatic improvement as they returned to a more youthful state.

Australasian Medical and Scientific will report Face Today’s findings to Regen Lab in Switzerland. The combination of applied techniques and volumes are then correlated for the purposes of the highest efficacy, safety and therapeutic benefit. To date the scientific data is mounting and Regen Lab and Radiesse are proving to be a perfect combination for volumetric therapy.

CONTRAINDICATIONS

Regen Lab is not suited for people with chronic disease, cancer and poor platelet count.

Smoking, poor eating habits and poor lifestyle affect the health and therefore patients will be assessed individually. The healthier the patient the more effective the result prove to be because their PRP is in better condition. Face Today encourages a healthy lifestyle with balanced nutrition as efficient cell to cell communication relies on sufficient protein levels. High sugar diets, smoking and the like are a negative contribution to any patient’s skin and health.

RECOMMENDATIONS

All age groups benefit and the number of treatments required will depend on the level of damage. Regen Lab will bio stimulate and Radiesse will contour. The basic recommendation is three treatments four to six weeks apart. However if the lifestyle and level of damage is severe the patient will need more treatments. Results will last more than one year and maintenance treatments can be implemented throughout this time. Patients start to see improvement from three weeks. The skin feels more moist and a finer texture becomes more evident. Collagen takes three months to mature. Therefore results continue to improve over this time. At the time of consultation, the doctor will assess the level of damage and treatment protocol for optimum results which will vary from patient to patient. Smokers will not greatly benefit as the toxins create too many free radicals.

There are more the 25,000 scientific papers on platelet rich plasma and, according to Australasian Medical and Scientific, to date no data has reported any adverse side effects.

Nicole Bell, founder of Face Today Medi Clinic, who conducted the trial, says “It certainly has become an essential tool in the treatment plans at Face Today Medi Clinic. The patients are excited as they understand the concept, having heard of stem cell research, and the fact it is their own DNA being used makes them feel more comfortable because they feel it is a more natural approach. This treatment is not necessarily a stand-alone; combining it with other treatments modalities such as Radiesse, IPL, some resurfacing treatments and internal nutrition will increase the rate of collagen growth. Certainly ones own genetics and current health play a part in the results.”
Contact: Face Today Medi Clinic 1300 668 573 or email: info@facetoday.com.au. Suite 66, 47 Neridah St Chatswood NSW 2067
Contact: Australasian Medical and Scientific Limited (02) 9882 3666 or email: amsl@amsl.com.au or visit: www.amsl.com.au