



FEATURES AND BENEFITS OF MyCells® PLUS PRP&PRF

PLATELET-RICH PLASMA (PRP)

MyCells® PLUSPRP is an autologous plasma fraction enriched with platelets and bioactive proteins. PRP owes its therapeutic interest to the crucial instrumental role of growth factors secreted by platelets granules which possess multiple regenerative properties. Among its highest virtues, its autologous nature in guaranteeing an excellent safety profile [1]. As a result, PRP is considered innovative and promising natural approach in tissue regeneration treatments.

PLATELET-RICH FIBRIN (PURE PRF)

MyCells® PLUS Pure PRF, a second generation of platelet concentrate, is an autologous polymerized fibrin scaffold consists of large quantity of platelets cytokines, growth factors and chemokines. The PRF is generated following platelets activation which are then trapped in this matrix. PRF can be used to promote wound healing, bone regeneration, graft stabilization, wound sealing, and hemostasis. As the fibrin matrix is better organized, it is able to more efficiently direct stem cell migration and the healing program [2]. Pure PRF is considered an advanced wound therapy for chronic and acute wounds, maxillofacial surgery, surgical wounds, diabetic ulcer, pressure wounds and chronic leg ulcers [3].

PRP/PRF IN WOUND HEALING.

PRP and PRF are thought to promote physiological healing, rapid soft and hard tissue regeneration by delivering high concentrations of growth and clotting factors essential for connective tissue healing; regenerating and repairing bone, tendon, cartilage and ligament; promoting development of new blood vessels and stimulating wound healing. Platelet concentrate functions as a tissue sealant and have been used to treat wounds since 1985 [4], these cells initiate wound repair by releasing locally acting growth factors via-granules degranulation [4]. PRP and PRF may provide a solution also when dealing with acute or chronic wounds, in which the healing may become impaired by patient factors and/or wound factors. In dentistry, PRP and PRF are used as healing biomaterial in oral and maxillofacial surgery to improve bone healing in implant dentistry [2]. In this field of clinical dentistry, the PRF may be used in several ways such as bone graft for implants, bone repair and fistula repair [2].

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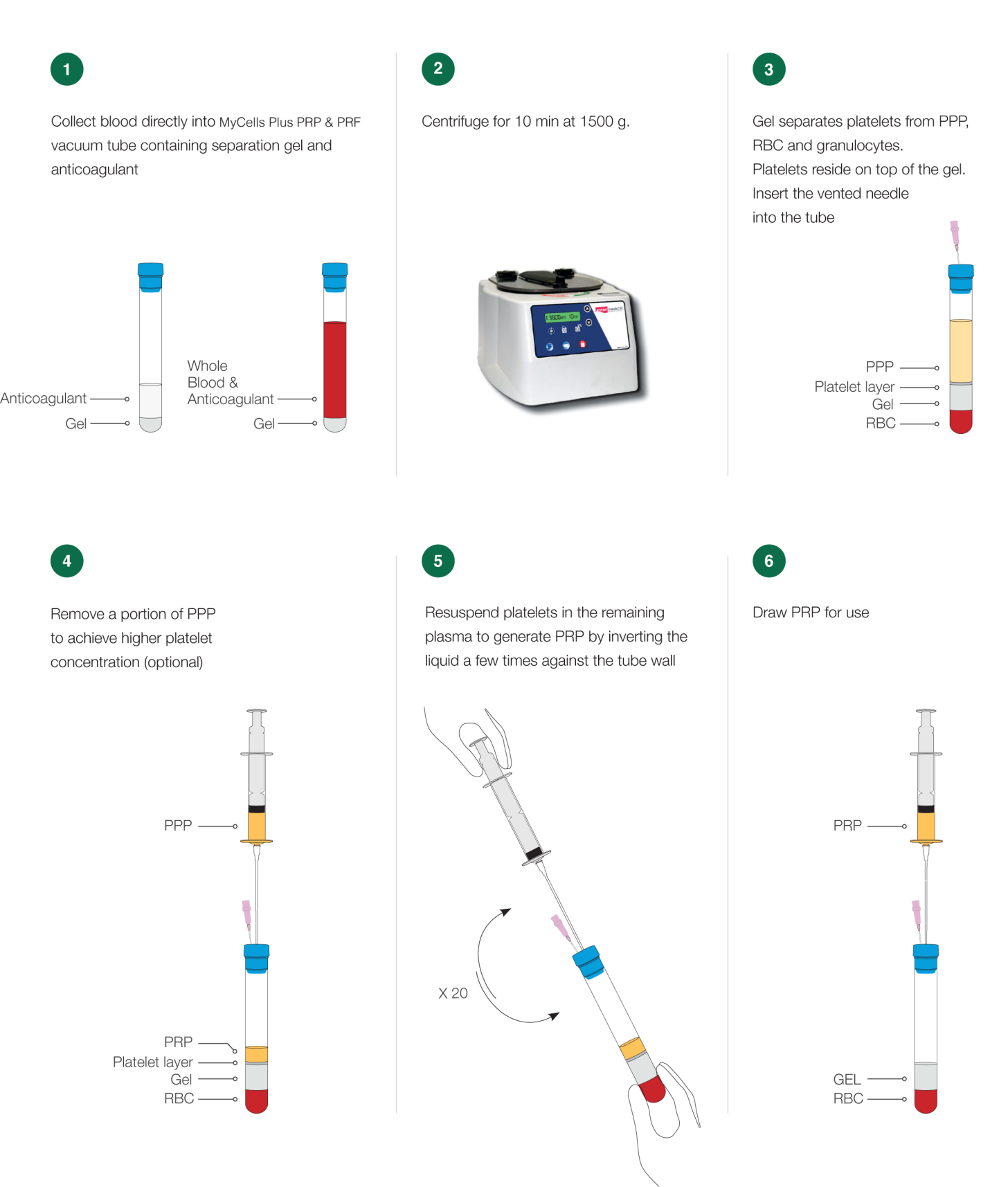
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2. Role of Platelet rich fibrin in wound healing: A critical review. Balaram N. et al., J Conserv Dent. 2013
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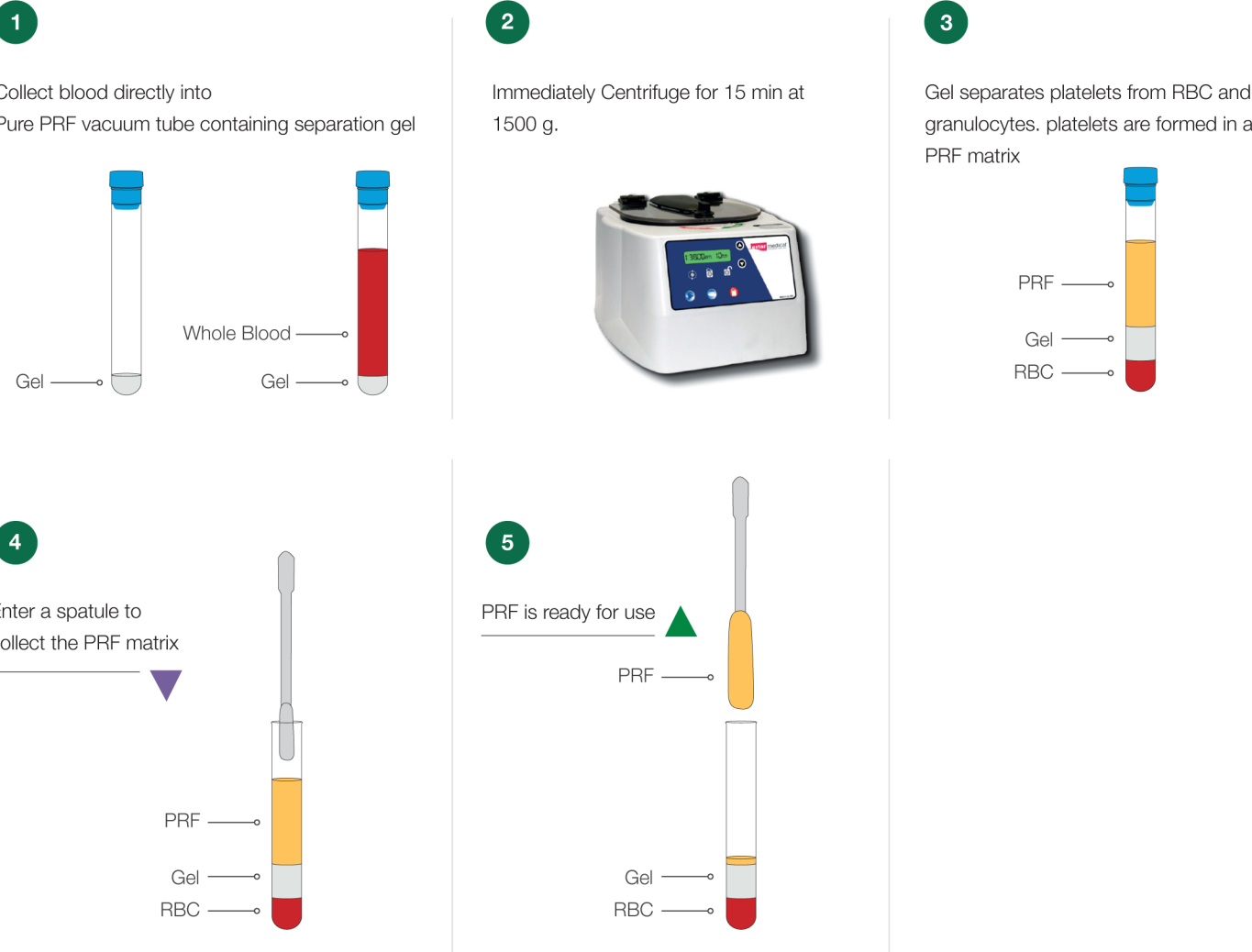
PRP PREPARATION USING MyCells® PLUS PRP&PRF

PRP is prepared by taking a small sample of the patient's own blood, then separating platelets from Platelet-Poor Plasma (PPP), Red Blood Cells (RBC) and leukocytes via centrifugation. PRP is then collected and can be injected back into the treated site to promote healing response. The whole preparation process is simple and takes up to 15 minutes.



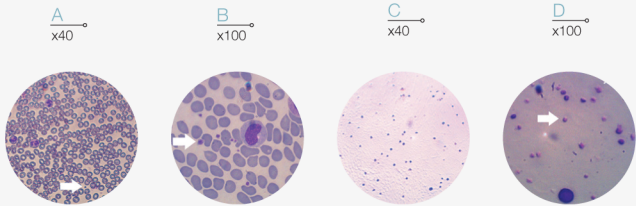
PRF PREPARATION USING MyCells® PLUS PRP&PRF

Pure PRF is prepared by taking a small sample of the patient's own blood, then separating platelets from RBC and granulocytes via centrifugation. Platelets will be formed in a PRF matrix. The Pure PRF is generated without the addition of activating substances



MyCells® PLUS PRP&PRF	
Platelets concentration fold	X 4 - 5
RBC (10 ⁶ /ul)	0.0
WBC (10 ³ /ul)	0.2
Granulocytes %	8.5
Mononuclear cells %	86.2
PDGF (pg/ml)	2048
VEGF (pg/ml)	220
EGF (pg/ml)	269

* Concentrated 2ml MyCells® PRP was prepared from 11ml whole blood.
MyCells® is a CE Marked Class IIb medical device [CE 1023], FDA 510(k) clearance for orthopaedic applications only. Manufactured in compliance with EN ISO 13485:2003, ISO 9001:2008 international standards.



Hematological analyses of PRP vs. whole blood. (A-B) Stained whole blood smears containing numerous erythrocytes and leukocytes. Conversely, PRP smears (C, D) contain primarily platelets (arrow), while the erythrocytes and granulocytes are eliminated.



FEATURES AND BENEFITS OF MyCells® PLUS PRP & PRF

SAFETY AND QUALITY

- Closed, biocompatible and xeno-free system, minimizing safety concerns.
- Approved medical device by the European (CE) and USA (FDA) Regulatory Authorities*.
- Manufactured in clean rooms, under EN ISO 13485 and ISO 9001 Quality System International Standards.

ADVANTAGES OF THE MyCells®Plus PRP&PRF SYSTEMS

1. Optimal biological profile of PRP/PRF due to the unique composed separation gel:
 - High platelet concentration and yield.
 - Eliminating undesired erythrocytes, which decrease fibroblast proliferation and augment apoptosis in vitro [5].
 - Massive reduction of granulocytes, which mediate catabolic effects [6].
 - Enriching mononuclear cells which induce anabolic effects, increase collagen expression and fight infection [7].
2. Flexibility of system enables users to obtain higher or lower concentration by simply adjusting the amount of clear plasma removed from tube for PRP.
3. A closed system to ensure optimal sterility and infection avoidance.
4. Easy preparation and handling. Short centrifugation: PRP (one spin) only 10 minutes and PRF (one spin) 15 minutes.
5. Expensive capital equipment is not required.
6. Promising data backed by clinical studies performed by reputable clinicians.
7. Pure autologous PRF, no need to add activating substances.

MyCells® Plus PRP&PRF THERAPY IN WOUND HEALING, DENTISTRY AND MORE

1. Initiate and accelerate tissue synthesis, tissue regeneration, bone and joint surface regeneration and promote development of new blood vessels. As a result, later infections, complications, and discomfort are decreased.
2. Significant improvement in symptoms.
3. Minimal safety concerns, non-allergenic and free from concerns over transmissible diseases.
4. May be combined with other treatments to stimulate biological effect.

* FDA clearance for orthopedic applications only.

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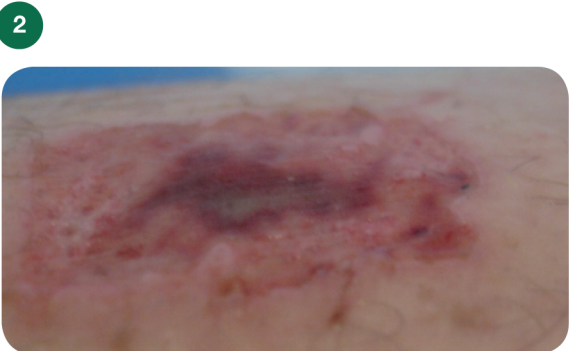
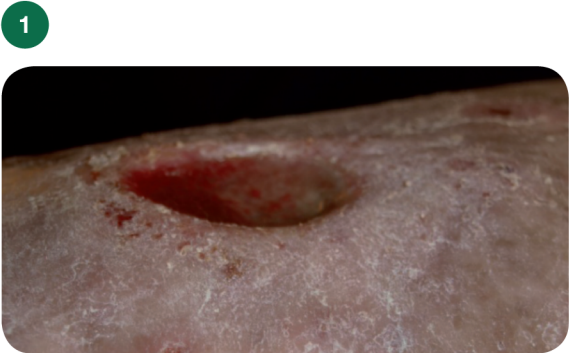
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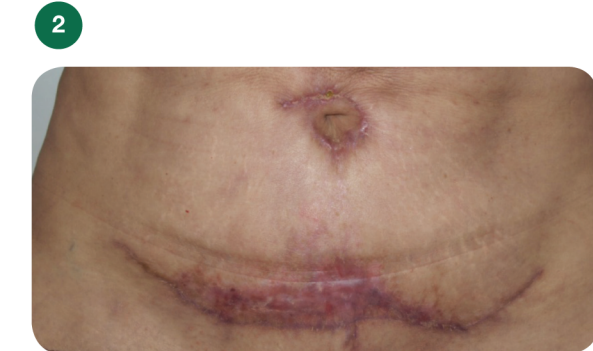
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MyCells® PLUS PRP&PRF WOUND MANAGEMENT RESULTS

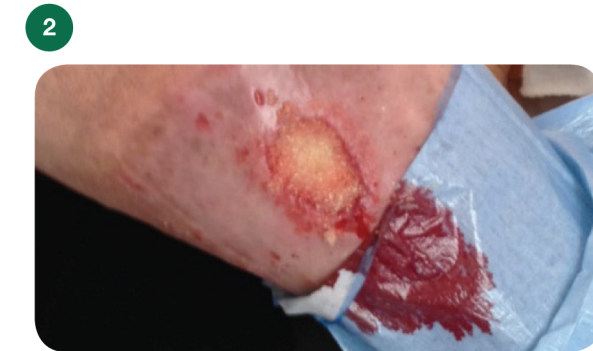
1. Three years old resistant ulcer
2. Following 8 PRP treatments



1. Non-epithelialized skin necrosis, three months after abdominoplasty
2. 4 weeks after the first procedure



PRP was injected into wound margins.
Collagen sheet with PRP dripped onto it was applied on the wound



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