

# L-PRF™ – Leukocyte-Platelet Rich Fibrin

How to naturally support  
wound healing



innovative

safe

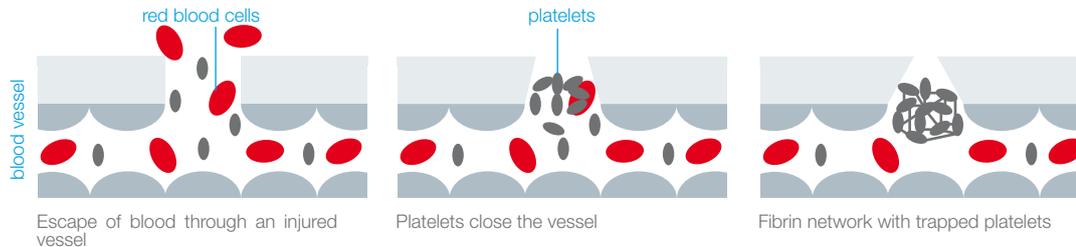
natural

# Wound healing –

## What happens when a blood vessel is injured?

Injuries to the skin or bones also affect the blood vessels. The damage of a blood vessel initiates the body's own process of blood coagulation.

Specialized cells that circulate in the blood, the so called platelets, are attracted to the wound site, where they stick together and to the walls of the vessel. The resulting blood clot seals the injured vessel, inhibiting the continuing escape of blood. In addition, a so called fibrin network is formed that helps stabilizing the blood clot. Fibrin is a fibrous protein that acts as a temporary support matrix for wound healing allowing cells to infiltrate, proliferate and contract the wound edges, i.e. closes the wound.



# Growth factors –

## The miracle matters of wound healing

Platelets and attracted immune cells release a multiplicity of signaling substances, i.e. growth factors that orchestrate the continuing processes of wound healing.

Growth factors promote proliferation and maturation of bone- and connective tissue forming cells, and the formation of new blood vessels. Thus, growth factors play a key role in wound healing and tissue regeneration.

The objective of the L-PRF™ technique is to naturally support wound healing by platelets-derived growth factors.



platelets

Release of signaling molecules

Attraction of cells  
Proliferation of cells  
Maturation of cells  
Blood vessel formation

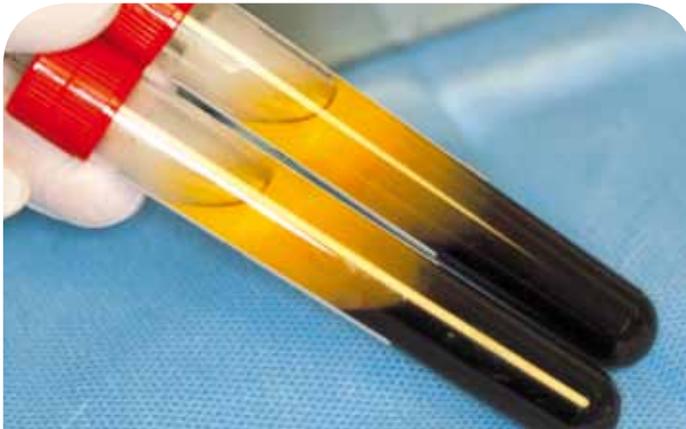
# What does L-PRF™ stand for and how can I be helped by this technique?

L-PRF™ is an abbreviation for 'Leukocyte-Platelet Rich Fibrin' and describes a natural component of the blood. The so called L-PRF™ fibrin matrix is enriched with platelets.

With the help of the L-PRF™ technique certain components and signaling molecules can be extracted from the patient's own blood, and subsequently be brought back to the wound area to support the natural wound- and tissue regeneration.

## Benefits for the patient:

- Improved and faster wound healing
- Less swelling and pain following surgical treatment and tooth extraction
- Reduced risk of infection
- Maximal tissue preservation



By courtesy of Siegfried Hoelzer,  
Königsbach-Stein/Tuttlingen, Germany

# The preparation of L-PRF™ fibrin matrix – Quick and safe

To prepare L-PRF™ the dentist draws one to eight tubes (á 9 ml) of blood from the patient, and centrifuge them for about 12 minutes.

Blood after  
centrifugation



During centrifugation the different components of the blood are separated according to their weight. At the same time, the process of blood coagulation starts. The natural 'glue' of the blood, the fibrin, forms a network in the middle of the tube, and platelets get trapped within the network. The fibrin clot with entrapped platelets can be removed with

forceps, while the red blood cells largely remain at the bottom of the tube.

Subsequently, the fibrin clots are placed in a special box to mechanically press remaining liquid out of the clots in about five minutes. Thereby, thin membranes are formed that can be applied to the wound area.



Processed and  
ready-to-use L-  
PRF™ fibrin matrix



Xpression™ Fabrication Box

# Use of the body's own growth factors – Wound healing in time-lapse

The platelets bound to the L-PRF™ fibrin matrix contain high levels of growth factors that are released to the wound after insertion.

Thus, the L-PRF™ fibrin matrix support wound healing in an absolutely natural way. Wound healing is accelerated by the concentrated application of growth factors that naturally occur within the blood. Besides improved wound healing, application of the L-PRF™ technique reduces pain and swelling as well as the infection risk following dental or surgical intervention.

L-PRF™ fibrin matrix are prepared without any additives and are therefore an entirely natural and safe product. The IntraSpin™ System is a medical device that is EC certified and FDA cleared.



# For which indications can the L-PRF™ technique be applied?

In general, L-PRF™ can be applied in all dental interventions to support wound healing.

In addition, L-PRF™ can be used in combination with biomaterials (bone substitute materials and soft tissue products) to enhance their biological potential and promote their integration.

## Indications

- Covering of the wound area after surgical treatment
- Bone augmentation (mixing with bone substitute material, covering of augmentation sites)
- Coating of implants
- Covering of the socket following tooth extraction
- Covering of exposed tooth roots (recession coverage)
- Treatment of soft tissue defects



L-PRF™ fibrin matrix coated with particulate bone grafting material

soft tissue

education

hard tissue

Your attending dentist will advise you on the specific features and advantages of the L-PRF™ technique.

This patient information was presented by:



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