

# platelet rich plasma

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# Platelet rich plasma

A BEAUTIFUL SKIN MAKES EVERY BODY CONFIDENT. IT GIVES A STRENGTH FROM WITHIN TO DO THINGS AND TASK ASSIGNED TO YOU. LOOKING GORGEOUS IS OBVIOUSLY ONE OF THE BEST DREAM ANYONE COULD DREAM OF AND PRP FULFILLS IT.



# Platelet rich plasma

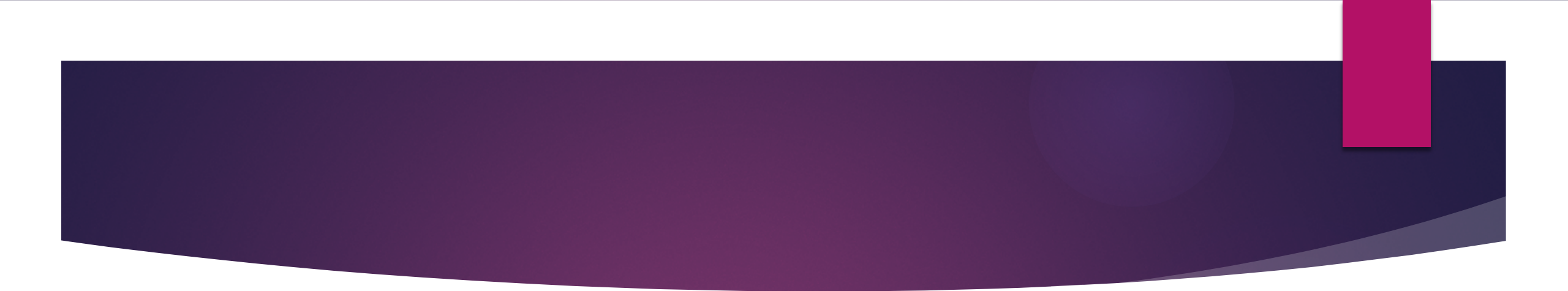
EVERYONE WOULD LIKE TO DO NATURAL LOOKING TREATMENT. EVEN AFTER YOU GO THROUGH A TREATMENT, NO ONE NOTICES WHAT YOU HAVE DONE BUT SEE A GRADUAL CHANGE IN YOUR SKIN. A CHANGE OF BEAUTY, A CHANGE OF FLAWLESS AND YOUTHFUL SKIN.



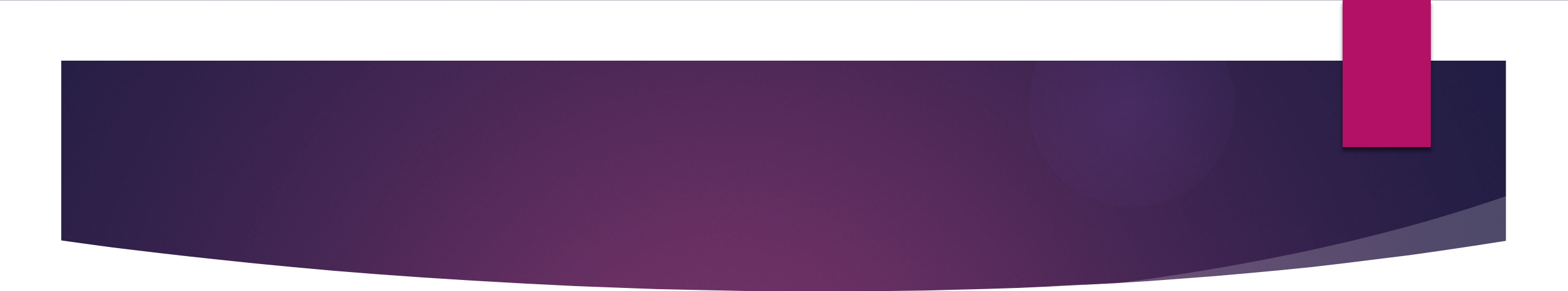
# Platelet rich plasma

THOUSANDS OF PEOPLE GET TREATMENTS DONE TO LOOK YOUNG, BEAUTIFUL, TO GET FLAWLESS SKIN. SOME ARE SATISFIED WITH THE RESULTS AND MANY MAY NOT BE. SO, IT DOES MATTER A LOT TO UNDERSTAND HOW YOUR SKIN WILL REACT WITH THE PARTICULAR TREATMENT.

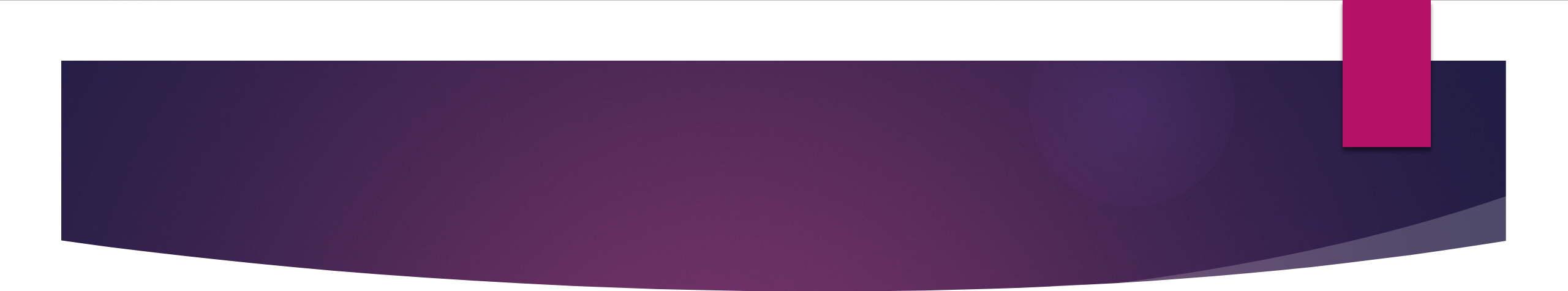




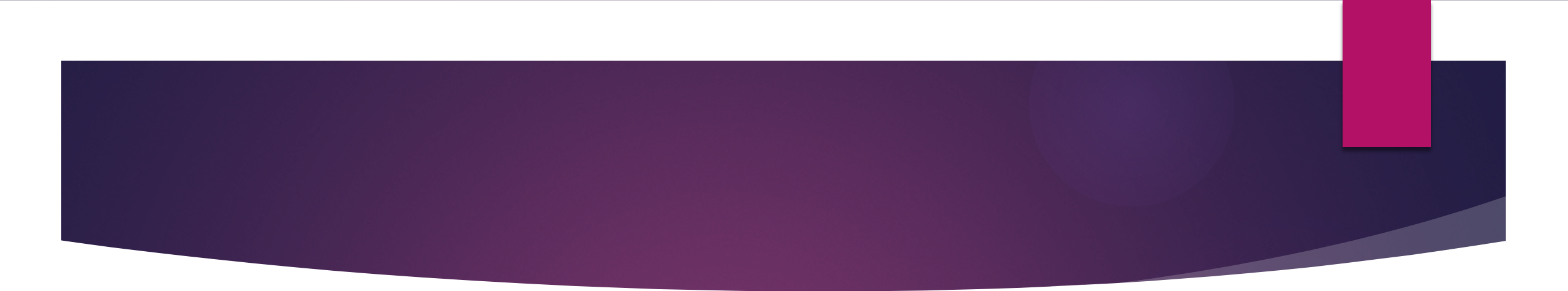
TREATMENT TECHNIQUE OF PLASMA - RICH BLOOD PLATELETS ( IN ENGLISH : PLATELET A RICH PLASMA ) OR ACRONYM (PRP) IS A MODERN TECHNOLOGY USED IN THE TREATMENT OF MANY MEDICAL CONDITIONS ARE BASED ON A SAMPLE SEPARATED FROM THE BLOOD OF THE PATIENT AND THEN TITIL THIS SAMPLE TO OBTAIN PLASMA BLOOD IS RICH IN BLOOD PLATELETS (SOURCE CENTER OF AUTOLOGOUS PLATELETS), THEN IT IS INJECTED INTO THE PLACES THAT NEED TREATMENT. IT CONTAINS SEVERAL GROWTH FACTORS AND VARIOUS OTHER CYTOKINES THAT STIMULATE TISSUE AND BONE HEALING .



THIS TECHNOLOGY STIMULATES THE DIVISION OF  
STEM CELLS, WHICH ARE PRIMITIVE CELLS THAT  
HAVE THE ABILITY TO DIVIDE AND MULTIPLY TO  
GIVE DIFFERENT TYPES OF SPECIALIZED CELLS SUCH  
AS SKIN CELLS, CARTILAGE CELLS, AND OTHERS.



These stem cells are responsible for the ►  
regeneration of damaged cells which leads to  
the production of new cells on its own in the  
body and tissue regeneration. Promoting the  
growth of new blood vessels and stimulating the  
wound healing process

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- ▶ This technique is completely safe and without any side effects at all in the long term, because it relies on injecting autologous materials from the same patient, and therefore there are no fears of the body rejecting the injected substance or the transmission of any bacterial infection

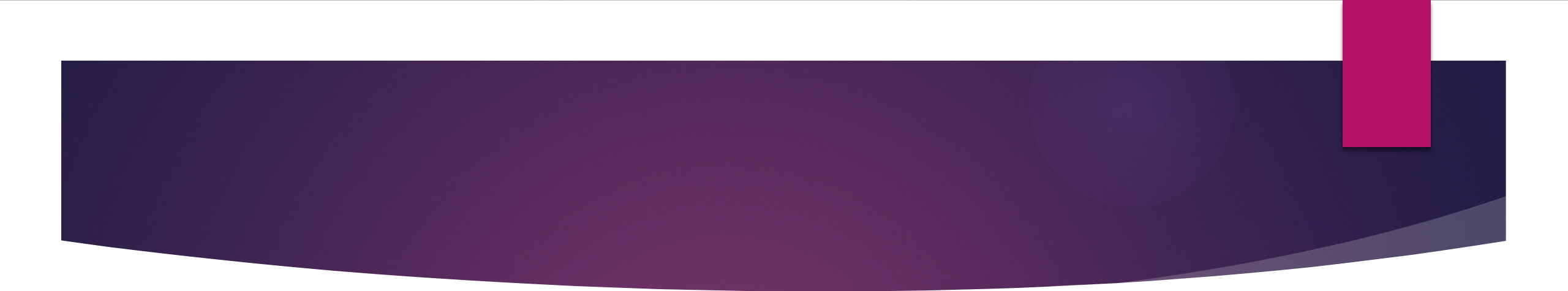


# history

- ▶ This technique was first developed in the 1970s and was first used in Italy in 1987 in an open-heart surgery.
- ▶ The use of platelet-rich plasma therapy began to gain popularity in the 1990s. It has been applied to many medical fields such as plastic surgery, dentistry, sports medicine and pain control.

# Components

- ▶ The efficacy of some growth factors in healing various injuries and the concentrations of these growth factors found within PRP are the theoretical basis for the use of PRP in tissue repair. Platelets collected in PRP are activated by the addition of thrombin and calcium chloride , which induces the release of these factors from alpha granules. Other growth factors and cytokines present in PRP include

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- ▶ A platelet-derived growth factor .
  - ▶ Transforming growth factor beta.
  - ▶ fibroblast growth factor.
  - ▶ Insulin- like growth factor-1 .
  - ▶ Insulin- like growth factor 2 .
  - ▶ vascular endothelial growth factor;
  - ▶ Growth factor skin .
  - ▶ Interleukin 8.
  - ▶ Keratinocyte growth factor.
  - ▶ Connective tissue growth factor

# Preparations



Preparation of platelet-rich plasma (PRP)

# Preparations

- ▶ So far, there are two methods for preparing PRP that have been approved by the US Food and Drug Administration. Both methods include collecting blood samples (to which the anticoagulant citrate is added dextrose) before undergoing two stages of centrifugation. Designed to separate the platelet fraction from platelet-lowering plasma and red blood cells. The ideal platelet count for humans is approximately 200,000 per microliter, while the platelet count for PRP is five times higher. There are wide changes in PRP production through the presence of various devices and plate concentration techniques.

# Mechanism of preparation

- ▶ A small amount of blood is drawn from the patient (approximately 8 ml) and it is drawn into special Swiss tubes for this purpose, sterile and with American, Swiss and French registration certificates. Then this blood is placed in a special device, a centrifuge, that separates red blood cells from the plasma. As a result of this procedure, we get platelet- rich plasma (PRP). This procedure takes a few minutes (5-9 minutes).
- ▶ After that, the doctor injects this platelet-rich plasma into the place that needs revitalization, regeneration of cells and collagen again

draw a blood sample





After two centrifuges, the platelet-rich plasma is withdrawn



# Uses

- ▶ Dermatological problems: to treat wrinkles, dark circles under the eyes , cases of hair loss .
- ▶ تعالج البلازما حبوب الشباب التي تظهر بالوجه حيث أنها فعالة جدا في التأثير عليها ويجب أيضا الالتزام بنصائح طبيب الجلدية الخاص والاستخدام السليم للأدوية التي توضع على الوجه كالكريمات والمرام ويتوقف استجابة الوجه للعلاج حسب نوع البشرة وحالتها وطبيعة الجسد.

- ▶ – تبدأ نتائج حقن البلازما للشعر عندما يهدأ الألم بفروة الرأس وتخف التورمات، ويمكن متابعة نتائج حقن البلازما للشعر عن طريق قياس نسبة التحسن في المعامل الكمي للشعر Hair mass index والتي تتم بمساعدة جهاز فحص الشعر والذي يتمكن من مساعدة التحسن الطارئ على الشعر.
- ▶ – ويسمح أيضا الجهاز بتوقع النتيجة التي ستقوم بملاحظتها مستقبلا بالعين المجردة عد عملية حقن فروة الرأس بفترة زمنية تتراوح ما بين 8 أشهر و 12 شهر ويتم ملاحظة التحسن في مظهر الشعر وقوته وكثافته.
- ▶ – تحتوي عينة البلازما التي يتم حقن فروة الرأس بها على نسبة عالية من الصفائح الدموية تصل إلى 700% تحفز البصيلات وتنعشها ووفقا للإحصائيات والتجارب بعد 8 أشهر من القيام بعملية الحقن لتكون ملحوظة للجميع.
- ▶ – يبدأ الشعر بالتزايد والنمو وتمتلئ الفراغات بين الشعيرات ويبدأ جزء من الشعر بالظهور من جديد في مناطق معينة.
- ▶ – يبدأ التقصف والهيشان بالاختفاء التدريجي بشكل ملحوظ، ويزداد طول الشعر يوم عن يوم.

- نظراً لاختلاف النتائج من شخص لآخر فقد كان ذلك سبباً واضحاً في أن منظمة الصحة العالمية لم تعتمد تلك الطريقة العلاجية إلى الآن لذلك يجب أن يكون الطبيب ذو خبرة وكفاءة عالية.

- يظل الشعر يتغذى على ما تم حقنه من البلازما والصفائح حتى يقل منسوبها فيقل معدل نمو الشعر ثم ينتهي المنسوب فينتهي معدل نمو الشعر.

- يتم قياس نمو الشعر بعد مرور سنة كل 3 أشهر حتى وصول مرحلة توقف معدل النمو أو ما قبل الحقن مما يعني أن الشخص في حاجة إلى أن يجري عملية حقن جديدة للحفاظ على معدل نمو الشعر الذي سبق توقف النمو.

- يستمر معدل التحسن والنمو في الشعر لفترة من الزمن تقدر بسنة من بعد بدء ملاحظة نتائج حقن البلازما للشعر بالعين المجردة.

- تظهر نتائج البلازما على الشعر وتستطيع علاج الصلع الناتج عن تساقط الشعر مما يزيد من شعور الثقة بالنفس ولكن الصلع الوراثي لا تظهر به أي نتائج عن حقن البلازما مهما طالّت مدة الانتظار ه لأنه عبارة عن زيادة مادة التستوستيرون

## ▶ اضرار حقن البلازما

- ▶ - لا يوجد مخاطر أو أضرار حقيقية ترتبط بحقن البلازما للشعر وأغلب الذين يتلقون الحقن لا يشعرون بالتنميل ولكن يلزمهم قلة الراحة لذلك يجب تطبيق كمادات ثلج.
- ▶ - تظهر الكدمات أحيانا على فروة الرأس وتتلاشى خلال فترة تتراوح بين 7 أيام إلى 14 يوم لذلك ينصح بالاستحمام بالماء الدافئ عقب الانتهاء من حقن البلازما.
- ▶ - الاستحمام ينشط الدورة الدموية بالرأس، يحرص بالامتناع عن استخدام الصبغات ومجففات الشعر.
- ▶ - أما حقن البلازما للوجه فتعرض البشرة للتقشير بشكل ملحوظ، ويظهر تورم واحمرار بالوجه لمدة أسبوع كامل.
- ▶ - من أكبر عيوب حقن البلازما عدم التمكن من استخدامها إذا كانت بشرة الوجه تعاني من الترهلات الشديدة.
- ▶ - تتأخر نتائج حقن البلازما في كثير من الأوقات تمتد نتائجها إلى عدة أشهر.

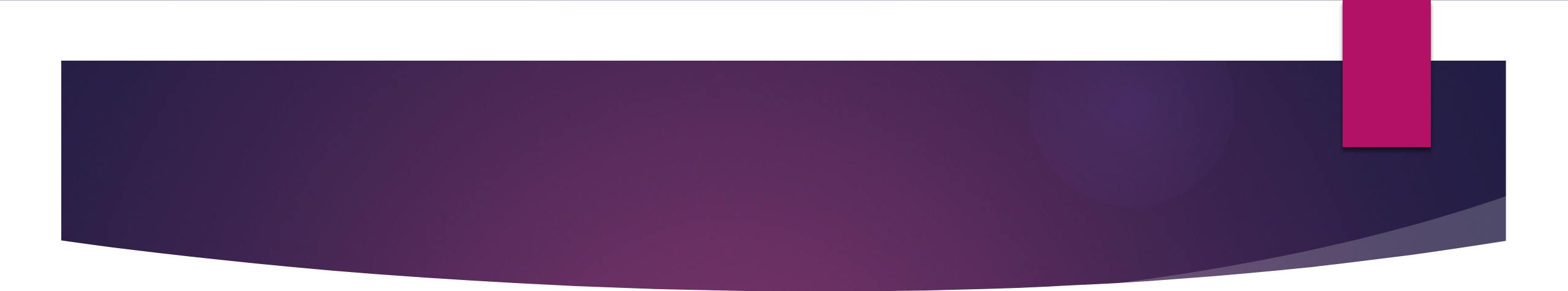
▶ - التصبغ الجلدي في أغلب الأوقات ينتج عن استخدام حقن البلازما للوجه ولكن التصبغات تزول مع الوقت.

▶ - يجب إجراء فحوصات طبية للدم للتأكد من أنه خالي من الفيروسات والأمراض المتعلقة بالدم واستخدام حقن البلازما يؤدي للعدوى وتتفاقم الأوضاع السيئة.

▶ - يجب التأكد من أن الطبيب ماهر والمكان نظيف والأدوات معقمة بشكل صحيح منعا لانتقال أي عدوى.

▶ - في حال استخدام حقن البلازما للركبة و **الغضاريف** فهي آمنة حيث أنه لن يقوم الجهاز المناعي الخاص بجسم المريض بأي مقاومة لتلك الأجسام التي تساعد على الشفاء.

- ▶ - من الممكن أن يحدث تفاعل معها لكون حقن البلازما لا تحتوي على الكورتيزون والذي يسبب أضراراً جمة للجسم.
- ▶ - هناك احتمالية بأن تسبب حقن البلازما أضراراً للكبد على المدى البعيد وهي غير صالحة للأشخاص الذين يعانون بأي أمراض بالكبد.
- ▶ - من الطبيعي أن يتم الشعور بوخز في الجلد بعد الانتهاء من عملية حقن البلازما سواء أكانت للوجه أم للشعر أم للركب والمفاصل وغيرهم.
- ▶ - يتمثل أحد أهم أضرار حقن البلازما أنه يصعب التنبؤ بالنتائج المتحققة بشكل مسبق، وذلك لأن النجاح يتوقف على مدى استجابة المريض للعلاج أولاً، وهو ما لا يمكن توقعه بصورة صحيحة ودقيقة، مما قد يصيب بعض مستخدمي حقن البلازما بالإحباط لعدم حصولهم على النتائج التي يرونها مرضية.

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- ▶ Orthopedic problems: knee roughness , degenerative diseases of the dorsal vertebrae and joints in the body, tennis elbow injury, carpal tunnel syndrome and muscle tendon injuries.

# Benefits

- ▶ Patients can see significant improvement in symptoms as well as a noticeable return to function. This may remove the need for more aggressive long-term treatment such as medication or surgery



# Clinical applications

- ▶ Platelet-rich plasma has been examined and used in humans as a therapeutic tool for several types of treatments such as: nerve damage , tendonitis , osteoarthritis , myocardial damage , bone repair and reconstruction and plastic surgery and oral surgery . Platelet-rich plasma has gained popularity through its application in the treatment of sports injuries in professional athletes

# Hair regrowth

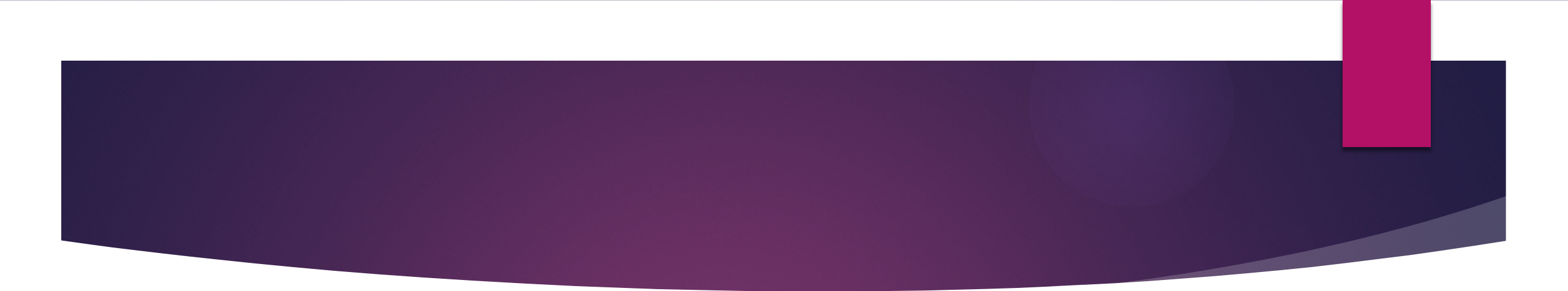
▶ PRP has also been used as a treatment for hair regrowth due to excess testosterone in a 2013 review it was stated that it still needed more evidence to determine if it was effective for this use

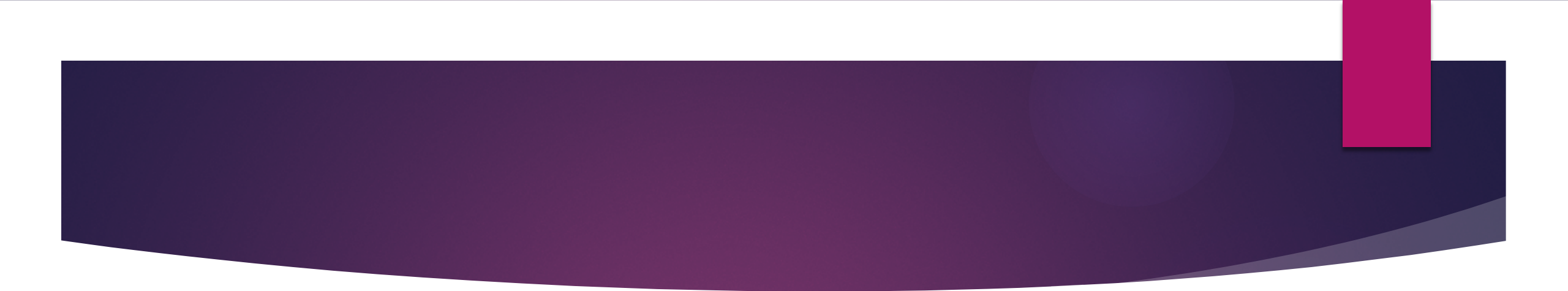


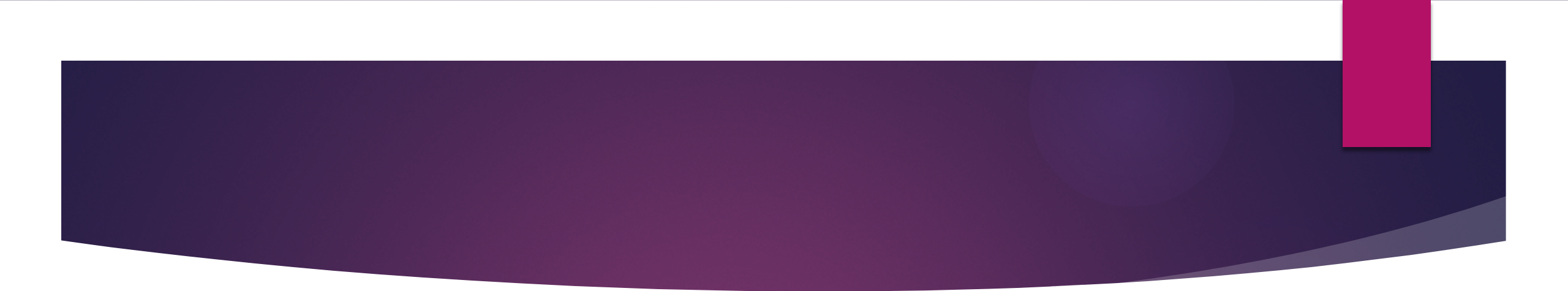
Platelet-rich plasma is injected into the wound area by ultrasound

# Medical credibility

- ▶ The results of pre-clinical and scientific-based trials confirmed their approval of such operations to a large extent. Its use in the treatment of neurological damage and in sports medicine was promising, although its results were initially conflicting and inconsistent in the first attempts.

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- ▶ In 2009, the Regulatory Authority for Scientific Literature announced that there are few controlled clinical trials that have been evaluated to have obtained a sufficient degree of safety and the ability of platelet-rich plasma to treat, ensuring that it will be a promising technology, but without evidence so far, for the treatment of injuries to joints, ligaments, tendons and muscles. . Proponents of the PRP therapy technique debate the negative clinical outcomes related to poor PRP quality resulting from inappropriate single-tissue devices.

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- ▶ In fact, most of the collected devices found that the percentage of the number of platelets is uneven and variable for many. As there is great inter-individual variation in platelet concentration in plasma. Excessive increase is not important in this case. Differences in platelet concentration methods may influence degranulation properties that may influence clinical outcomes A 2010 Cochrane analysis did not find evidence that PRP provided any benefit when used in sinus lift or during dental implants.

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- ▶ But in 2014, it found weak evidence that it is able to reduce pain in cases where this technique is used for treatment for a short period of up to 3 months, as in skeletal muscle wounds. The collected information did not show a difference in function, whether the duration of treatment was long, medium or short. It found weak evidence to suggest that adverse events (adverse) occur similarly and at low rates between people who use this technique and those who do not. A study published in 2019 in the Journal of Cosmetic Dermatology and included 343 patients, and the results confirmed the effectiveness of plasma in increasing hair density, without monitoring any serious side effects of this procedure

## Use in horses

- ▶ Platelet-rich plasma has been used in horses to treat horse lameness, including use in ligament and tendon wounds, and to treat wounds, fractures, osteoarthritis and bone cysts

# Effect of anabolic steroids

- ▶ Some perceptions raised by many that treatment in this technique violates the anti-doping rules issued by the World Anti-Doping Agency. As it is not yet clear that the local injection of PRP has an effect on the level of circulating cytokines in the blood in the blood doping test. Although the treatment in this technique has effects on the overall building processes or performance. In January 2011, the World Anti-Doping Agency removed intramuscular PRP injections from use after it was determined that they lacked any current evidence. In April 2014, 28-year-old Chris David underwent two PRP injections to speed up the healing process from his wounds



