# CONFERENCE
# Biobridge Asia'24

## Generation Regeneration

**DECEMBER 6 TO 7 2024**

RẤT VUI ĐƯỢC GẶP LẠI BẠN

2024 | INTERCONTINENTAL HANOI WESTLAKE

BIOBRIDGE® FOUNDATION

regenlab® TISSUE ENGINEERING SPECIALISTS

# CONFERENCE
# Biobridge Asia'24

## DIGITAL BOOK

# DERMUGYN *Room*

The "Welcome Speech" and "Opening Remarks: Biobridge Updates" sessions will take place in person in the DERMUGYN room and will be broadcast live in the MSK room.

08:30 am - 9:00 am **| REGISTRATION**

09:00 am - 9:05 am **| Welcome Speech**
Assoc. Prof. Dr. Nguyen Thi Xuyen
President of Vietnam Medical Association

09:05 am - 9:35 am **| Opening Remarks: BioBridge Updates**
Mr Antoine Turzi | Founder & CEO of Biobridge (SWITZERLAND)
Mr Jean-Marie de Donato | VP Business Development Africa / Middle East / Asia Pacific (SWITZERLAND)
Mrs Magalie Terry | Manager Business Development Oceania Regulatory Associate AUS Scientific Liaison APAC / MEA (AUSTRALIA)

09:35 am - 9:40 am **| Introduction to Biobridge Meeting**
Prof. Dr. Nguyen Huu Sau, (chairman of Aesthetic)
President of Vietnam Dermatology Association

9:40 am - 10:10 am **| Asian Skin Regeneration**
Dr. Ghislaine Beilin | VP of SNME (FRANCE)

10:10 am - 10:40 am **| PRP in Skin Quality Improvement**
Dr. Anna Hoo | Director / AMI Trainer / KOL (MALAYSIA)

10:40 am - 11:10 am **| Q&A**

**11:10 am - 11:30 am | Morning Break**

11:30 am - 12:00 pm **| My Experiences using PRP on Hair Restoration Treatments**
Dr. Ming-Cheng Chien | Director / MD / KOL (TAIWAN, R.O.C.)

12:00 pm - 12:30 pm **| Clinical usage of PRP on Female Genital Wellness**
Dr. Connie Zhi-Chen Hung | Director / MD / KOL (TAIWAN, R.O.C.)

12:30 pm - 1:00 pm **| Q&A**

**1:00 pm - 2:00 pm | LUNCH**

2:00 pm - 2:30 pm **| Regenerative Hair & Skin Solutions: Innovative Approach to Using PRP in Dermatology**
Dr. Maria Franchesca S. Quinio-Calayag | MD, FPDS, FDSP ( PHILIPPINES)

2:30 pm - 3:00 pm **| Platelet-Rich Plasma (PRP) as Adjuvant Therapy for Melasma**
Dr. Rita Maria | Sp.DVE (INDONESIA)

**3:30 pm - 3:50 pm | Afternoon Break**

**3:50 pm | SESSION END**

**7:30 pm | Dinner**

# MSK Room

08:30 am - 9:00 am **| REGISTRATION**

09:00 am - 9:05 am **| Welcome Speech**
Assoc. Prof. Dr. Nguyen Thi Xuyen
President of Vietnam Medical Association

09:05 am - 9:35 am **| Opening Remarks: BioBridge Updates**
Mr Antoine Turzi | Founder & CEO of Biobridge (SWITZERLAND)
Mr Jean-Marie de Donato | VP Business Development Africa / Middle East / Asia Pacific (SWITZERLAND)
Mrs Magalie Terry | Manager Business Development Oceania Regulatory Associate AUS Scientific Liaison APAC / MEA (AUSTRALIA)

09:35 am - 9:40 am **| Introduction to Biobridge Meeting**
Assoc. Prof. Dr. Nguyen Thi Ngoc Lan, (chairwoman of MSK)
President of Vietnam Rheumatology Association

09:40 am - 10:10 am **| 7 Habits for Highly Effective PRP – A Coveyian Approach to Using Orthobiologics in the Clinic**
Dr. Patrick O.L. Goh | MBBS (Singapore), MSS, FAMS (Sports Medicine), PBM (SINGAPORE)

10:10 am - 10:40 am **| Tendon & Ligament injection (Cellular Matrix)**
Dr. Wesley Chih-Chun Chen | MD, CIPS (TAIWAN, R.O.C.)

10:40 am - 11:10 am **| Q&A**

**11:10 am - 11:30 am | Morning Break**

11:30 am - 12:00 pm **| Synergistic Applications of PRP and other Biologic Modalities: The Future Trends**
Dr. Jen-Li Pan | MD, CIPS, EMBA (TAIWAN, R.O.C.)

12:00 am - 12:30 pm **| Ultrasound Guided Regenerative Injection Therapy on Fascia**
Dr. Stanley Lam | MBBS (Hong Kong), FHKMScSEM, MScSMHS, PGDipMSM (Otago), RMSK, CIPS, FIPP, POCUS (MSK) (HONGKONG)

12:30 pm - 1:00 pm **| Q&A**

**1:00 pm - 2:00 pm | LUNCH**

2:00 pm - 2:30 pm **| Efficacy of Ultrasound Guided PRP Injection for the Management of Supraspinatus Tendonitis**
Dr. Hoang Van Dung | MD, PhD (VIETNAM)

2:30 pm - 3:00 pm **| The Use of Musculoskeletal Ultrasound in Regenerative Injection Therapy**
Dr. Mark Lai Wai Wah | MBBS (HKU), MScSM&HS (CUHK), CIPS (WIP) (HONG KONG)

**3:30 pm - 3:50 pm | Afternoon Break**

3:50 pm - 4:20 pm **| The Effectiveness of PRP Therapy in the Treatment of Tendinopathies–Vietnam Experience**
Dr. Huynh Khoi Nguyen | MD, MSc (VIETNAM)

4:20 pm - 4:35 pm **| Q&A**

**4:35 pm | SESSION END**

**7:30 pm | Dinner**

DERMUGYN |
**Asian Skin Regeneration**
Ghislaine Beilin
VP of SNME (FRANCE)

# Dr. Ghislaine Beilin

Doctor Beilin is a specialist in aesthetic medicine, laser and anti-aging medicine.
She is a University Teaching professor at Tarnier-Cochin Hospital in Paris.

DIU: Evaluation and control of techniques of injections and volume in dermatology and plastic surgery.
International expert and trainer in mesotherapy, laser, radiofrequency and fillers
Scientific committee: “MEGA –Hand” congress
Scientific committee: “French and Emirates hospital” Abu-Dhabi.
Scientific committee: “Merano Henri Chenot, medical spa” Italy.
Scientific committee: “Medical spa Xixuan”, Hangzhou-China.
Consulting: L’Oréal, Q-Med, Palomar, Croma, Anteis, Mesoestetic;
Galderma, Filorga, Pollogen, BTL Aesthetic, Biophymed.
2007 Author of “The light that rejuvenate your skin”. Anagramme edition.

ABSTRACT

## Asian Skin Regeneration

Due to its ability to induce collagen synthesis by dermal fibroblasts, Platelet Rich Plasma has been proposed as a promising treatment option in the field of skin care (Abuaf et al. 2016, Cho et al. 2010, Cho et al. 2012, Kim et al. 2011). For a few years, it is successfully used in numerous dermal applications, including alopecia, scar revision (keloid or traumatic scars), acne scars, stretch marks, skin rejuvenation (overall improvement in skin texture and firmness) and dermal augmentation.

Coming back to the in-vitro study, recently published in the famous Tissue Engineering Journal, it was shown that fibroblast and seperately adipose tissue derived from derived stem cells (ADSC cultured in mediums supplemented by Regen PRP showed dose-dependently significantly higher proliferation rates (up to 11 times with 20% of PRP for fibroblast and up to 16 times with 20% of PRP for ADSC compared to Fetal Bovine Serum,) while chromosomal stability was maintained (Berndt et al, 2019). The results clearly show the impact of autologous PRP in fibroblast and ADSC proliferation.

On another hand, combination in one-step of PRP and hyaluronic acid with Cellular Matrix is also used in the field of skin care for intra-dermal injections, for the hydration of dehydrated and wrinkled skin. It has also been shown that this combination with HA prolongs the effects of PRP, thereby improving skin tone and quality (Hersant et al. 2017, chapter 4). Finally, regarding Androgenetic Alopecia (AA), it has been shown that superficial injections of RegenPRP increases rate in hair growth and hair density. Thus, PRP appears to be also an effective treatment for hair loss in AA without any remarkable adverse event (Gkini et al. 2014).

## 1) Technology platform

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d) Instructions for use




## 2) Scientific data

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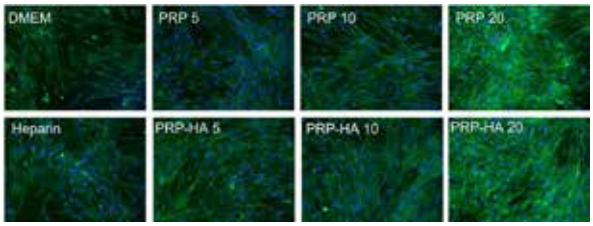
a) Pre-Clinical studies

**Results :**

- Autologous PRP-(HA) **increases type I collagen expression**




Berndt et al. Biomedicines, 2021.
Berndt et al. Scientific Reports, 2021



## 3) Clinical cases

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Superficial wrinkles

Before treatment*

After the treatment*



## 3) Clinical cases

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Acne scars

Before treatment*

1 year after the treatment*

DERMUGYN |
**PRP in Skin Quality Improvement**
Anna Hoo
Director /AMI Trainer / KOL (MALAYSIA)

# Dr. Anna Hoo

**Qualifications:**

- MD, Universiti Sains Malaysia
- Certified International Trainer
- Board Certified Doctor of AMERICAN ACADEMY OF AESTHETIC MEDICINE – AAAM®

Dr. Anna Hoo is the founder and medical director of Anna Hoo Clinic, a multi-award-winning anti-aging and aesthetic practice located in Kuala Lumpur, Malaysia. She obtained her medical degree from the University of Science Malaysia in 2002 and further honed her expertise by completing fellowship training in dermatologic laser surgery at Mahidol University in Bangkok, Thailand. In 2009, she earned her board certification from the American Academy of Aesthetic Medicine in the USA.

As an internationally recognized trainer in injectables, laser treatments, and combination therapies, Dr. Hoo has shared her insights and expertise at both national and international scientific meetings. Her unwavering commitment to patient health and well-being drives her to continuously engage in professional development, ensuring that she provides the highest standard of personalized, safe, and evidence-based care. Dr. Hoo advocates for a holistic approach to health, which she believes encompasses complete physical, mental, and social well-being. She is dedicated to empowering her patients to lead fulfilling lives through optimal health from the inside out.


ABSTRACT

## PRP in Skin Quality Improvement

Platelet-Rich Plasma (PRP) is increasingly recognized for its role in enhancing skin quality. PRP is an autologous preparation derived from the patient's own blood, enriched with platelets and growth factors that promote tissue repair and regeneration. The application of PRP in dermatology, particularly in skin rejuvenation, has gained popularity due to its potential to improve skin texture, tone, and overall quality.

PRP works by stimulating collagen production, enhancing cellular turnover, and improving blood supply to the skin. These processes contribute to the reduction of fine lines, wrinkles and skin laxity, leading to a more youthful and radiant appearance. PRP also helps in the treatment of conditions such as acne scars, pigmentation irregularities, and other signs of aging by promoting the healing and regeneration of damaged skin tissues.

Clinical studies have demonstrated that PRP can lead to significant improvements in skin elasticity, hydration and thickness, contributing to a more even skin tone and smoother texture. The procedure is minimally invasive, with a low risk of adverse effects since it utilizes the patient's own biological material, reducing the likelihood of allergic reactions or other complications.

Overall, PRP therapy represents a promising approach to skin quality improvement, offering a natural, safe and effective option for individuals seeking to enhance their skin's appearance and combat the signs of aging.

## PRP and Tissue Regeneration

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PRP accelerates the healing process.

Acceleration of Healing with PRP (time)

Normal Healing (time)

| Haemostasis | Inflammation | Regeneration | Remodeling |
|---|---|---|---|
| - Plasma<br>- Platelet<br>- Fibrin<br>- VWF<br>- Fibrinogen | - Leukocytes<br>- Inflammatory Factors<br>- PDGK<br>- PF-4<br>- β-TG<br>- RANTES<br>- CD40L | - Chemiotactic Factors<br>- Growth Factors<br>- TGFβ1<br>- TGFβ2<br>- EGF<br>- VEGF<br>- IGF | - Differentiation Factors<br>- 3-D Matrix<br>- Secondary Factors |



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## The Patient's PRP Journey!

PRP treatment is administered at four-month intervals.

Melasma and Anti-Aging Treatment: A comprehensive approach combining PRP (administered every four months) with Botox, Hyaluronic Acid Fillet, Fractional CO2 Laser, and Q-Switch ND-YAG Laser.

Photo Courtesy of Anna Hoo Clinic

## The Patient's PRP Journey!

PRP treatment is administered at four-month intervals.

Treatment for Melasma and Under-Eye Concerns: A combination of PRP (administered every four months) and Long Pulsed Alexandrite Laser.

Photo Courtesy of Anna Hoo Clinic

## The Patient's PRP Journey!

PRP treatment is administered at four-month intervals.

Hori Naevus Treatment: A combination of PRP (administered every four months) and Q-Switch ND-YAG Laser (administered monthly).

Photo Courtesy of Anna Hoo Clinic

Chien Ming-Cheng
Director/ MD/KOL (TAIWAN, R.O.C.)

# Dr. Chien Ming Cheng

**Current positions**

- Director of Shawson clinic
- Dermatologist of Taiwan Adventist Hospital
- Educational committee of Chinese Society of Cosmetic Surgery and Anti-aging Medicine

**Experience**

- Dermatologist of Cathay General Hospital
- Fellowship of National Taiwan University Hospital, Department of Dermatology
- Dermatological Resident of Taipei City Hospital
- Surgical Resident of Chang Gung Memorial Hospital

ABSTRACT

## My Experiences using PRP on Hair Restoration Treatments

Platelet-Rich Plasma (PRP) therapy has emerged as a promising treatment for hair restoration, offering a natural and effective solution for individuals experiencing hair thinning and loss. PRP is an autologous concentrate of platelets derived from the patient's own blood, rich in growth factors and cytokines that play a crucial role in tissue repair and regeneration.

In the context of hair restoration, PRP is injected into the scalp to stimulate the activity of hair follicles and promote hair growth. The growth factors in PRP, including platelet-derived growth factor (PDGF) and vascular endothelial growth factor (VEGF), enhance the proliferation of dermal papilla cells, which are vital for hair follicle development and cycling. This leads to the rejuvenation of dormant hair follicles, prolonging the anagen (growth) phase of the hair cycle and ultimately increasing hair density and thickness.

Clinical studies have shown that PRP therapy can significantly improve hair growth in patients with androgenetic alopecia and other forms of alopecia, reducing hair shedding and enhancing overall hair quality. The procedure is minimally invasive, with a favorable safety profile, as it utilizes the patient's own biological material, minimizing the risk of allergic reactions or complications.

Overall, PRP therapy represents a valuable addition to the arsenal of hair restoration treatments, providing a natural and effective option for patients seeking to combat hair loss. Its ability to harness the body's innate healing processes makes it a preferred choice for many individuals looking to improve hair density and vitality.

# Platelet Rich Plasma

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- Cell proliferation
- Anti-inflammation
- Extracellular matrix scaffold

## Clinical cases

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Dermatoscope

Before

After

## Clinical cases

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Androgenetic Alopecia

Before

After

## Clinical cases

BIOBRIDGE® FOUNDATION

Female pattern hair loss

Before

After

Connie Zhi-Chen Hung
Director/ MD/KOL (TAIWAN, R.O.C.)

# Dr. Connie Zhi-Chen Hung

**Specialty**

- Aesthetics Gynecology
- Female Sexual dysfunction
- Aesthetics Physician
- Obstetrics and Gynecology

Cosmetic gynecology focuses on aesthetic and functional enhancements of the female genital area. This specialty includes a range of procedures aimed at improving appearance, comfort, and sexual function. Key treatments include:

- Vaginal Rejuvenation: Utilizing laser and radiofrequency techniques to tighten vaginal tissues.
- Labiaplasty: Surgical reshaping of the labia for aesthetic and comfort reasons.
- Clitoral Hood Reduction: Minimizing excess skin for enhanced clitoral visibility and sensitivity.
- Hymenoplasty: Surgical reconstruction of the hymen.
- Injectables: Use of dermal fillers and Botox for aesthetic enhancement.
- O-Shot: Platelet-rich plasma injection to improve sexual function and arousal.

ABSTRACT

## Clinical Usage of PRP on Female Genital Wellness

Platelet-Rich Plasma (PRP) therapy has emerged as a promising treatment modality in the field of female genital wellness, leveraging the body's natural healing mechanisms to enhance tissue repair and regeneration. PRP is derived from a small sample of the patient's own blood, which is processed to concentrate platelets rich in growth factors, cytokines and other bioactive proteins. When injected into specific areas of the female genitalia, PRP stimulates collagen production, angiogenesis, and cellular renewal, leading to improve tissue quality and function.

Clinically, PRP is being used to address a variety of conditions affecting female genital health, including lichen sclerosus, atrophic vaginitis, urinary incontinence and sexual dysfunction. Patients often seek PRP treatments to enhance vaginal lubrication, increase sexual sensitivity, and improve overall sexual satisfaction. The procedure is minimally invasive, with a favorable safety profile, and typically involves little to no downtime, making it an appealing option for women seeking non-surgical solutions.

Preliminary studies and anecdotal clinical evidence suggest that PRP therapy can lead to significant improvements in genital wellness, with reported benefits including enhanced tissue elasticity, reduced symptoms of genitourinary syndrome of menopause (GSM), and heightened sexual pleasure. However, despite the encouraging outcomes, more robust, large-scale clinical trials are needed to establish standardized protocols, determine the long-term efficacy of PRP treatments, and better understand the potential risks and benefits. The ongoing exploration of PRP in female genital wellness represents a significant advancement, offering a novel, patient-centered approach to intimate health care.

## Platelet-rich plasma (PRP) therapy

- Improve the process of tissue repair through local delivery of autologous bioactive agents to influence critical physiological mechanisms such as inflammation, angiogenesis, or extracellular matrix synthesis.

## A-PRP in Gynecology and Aesthetic Gynecology

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**Non-invasive treatments ( clinic)**

- Genitourinary syndrome of menopause ( GSM )
- Female sexual dysfunction
- Post natal rehabilitation
- Wound care (e.g lichen sclerosis)
- Stress urinary incontinence
- Mesh erosion repair
- Lubrication disorder

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| Vaginal laser | A-PRP |
|---|---|
| **Superficial** | **Deep** |
| Ablation induce collagen regeneration ,tissue remodeling , increase support | Tissue repairement , angiogenesis, or extracellular matrix synthesis, stimulate collagen regeneration |
| Physiology ( heat) | Biological |

- Cosmetic use, Wound healing, and Urologic and Orthopedic applications
- Increasingly popular among minimally invasive methods with a wide area of use

Maria Franchesca S. Quinio-Calayag
MD, FPDS, FDSP ( PHILIPPINES)

# Dr. Maria Franchesca Sotto Quinio, MD, FPDS, FDSP

**Qualifications**

- University of the Philippines Manila College of Medicine 2008-2013,Doctor of Medicine
- LICENSE AND TRAINING CERTIFICATION, Dermatopathology Society of the Philippines-November 2019 Philippine Dermatological Society Board Certification

HOSPITAL AFFILIATIONS/WORK EXPERIENCES

- Siriraj Hospital, Bangkok Thailand August 2021 - August 2022
  Hair disorders and transplantation fellowship
- East Avenue Medical Center Department of Dermatology January 2020 to present
  Assistant Training Officer Medical Specialist I (Part Time)
- St. Louis Hospital Department of Dermatology 2017 to present
- Tacurong, Sultan Kudarat Department Head
- Research Institute for Tropical Medicine August 2022 to present
- Department of Dermatology Visiting Consultant
- Skin Pro Skin and Wellness Center February 2019 to present

ABSTRACT

## Regenerative Hair & Skin Solutions: Innovative Approach to Using PRP in Dermatology

Regenerative hair and skin solutions using Platelet-Rich Plasma (PRP) represent a groundbreaking approach in dermatology, leveraging the body's natural healing processes to address various aesthetic and medical concerns. PRP is derived from the patient's own blood, which is processed to concentrate platelets and growth factors. These bioactive substances are essential in promoting tissue repair, collagen production and cellular regeneration.

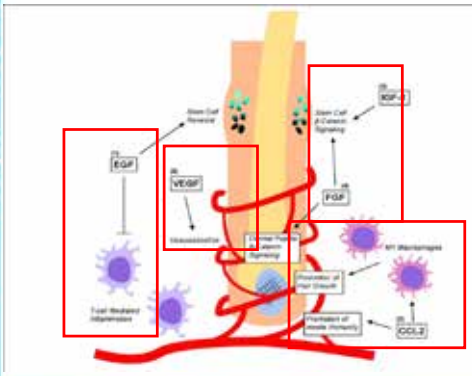
In dermatology, PRP has gained traction for its efficacy in treating hair loss and skin rejuvenation. For hair restoration, PRP stimulates hair follicle activity, prolongs the growth phase of the hair cycle and enhances blood supply to the scalp, resulting in thicker and healthier hair. Clinical studies show that PRP can effectively reduce hair thinning and support new hair growth in conditions like androgenic alopecia.

When applied to the skin, PRP aids in improving texture, tone and elasticity. It is used to treat fine lines, wrinkles, acne scars and other signs of aging by stimulating collagen synthesis and promoting the regeneration of skin cells. The minimally invasive nature of PRP therapy, coupled with its low risk of side effects, makes it a preferred option for patients seeking natural and effective treatments.

Innovative approaches in PRP applications continue to evolve, with research exploring its combination with other therapies such as microneedling, hyaluronic acid and laser treatments to enhance outcomes. Overall, PRP represents a promising and versatile tool in regenerative dermatology, offering a personalized and effective approach to hair and skin rejuvenation.

# PRP INDICATIONS FOR DERMATOLOGY


## AGA: growth factors and chemokines in PRP




- EGF – epidermal growth factors
- CCL2 – chemokine (C-C motif) ligand 2
- IGF-1 – Insulin growth factor-1
- IGF-1 – Insulin growth factor-1
- VEGF – Vascular endothelial growth factor

PATIENT 5: 31/M diffuse alopecia areata ( 4 sessions of ILSI with 2 sessions of PRP)

DAY 0

DAY 180

Rita Maria
Sp.DVE (INDONESIA)

# Dr. Rita Maria, Sp, DVE

- Dermatovenereologist Esthetic at Presidential Hospital RSPAD Gatot Soebroto, Jakarta
- Lecturer of Medical School Undergraduate Program at YARSI (Jakarta), UKRIDA (Jakarta), UPN Jakarta, and Atmajaya University (Jakarta)
- Lecturer of Specialist Doctor of Dermatology and Venereology Graduate Program at Hasanuddin University, Makassar
- Specialized in Aesthetic procedure as the use of PRP for melasma and vaginal rejuvenation

ABSTRACT

## Platelet-rich plasma (PRP) as adjuvant therapy for melasma

Melasma is a common acquired condition of symmetric hyperpigmentation, typically occurring on the face, with higher prevalence in females and darker skin types. Although its pathogenesis remains unknown, melasma results from the interaction of sun exposure, hormonal stimuli, altered oxidative status, and upper dermal abnormalities in genetically predisposed individuals. Though common, the management of this disorder remains challenging given the incomplete understanding of the pathogenesis, its chronicity, and recurrence rates. Various topical, oral and procedural therapies have been successfully used to treat melasma. Recently, Platelet-rich plasma (PRP) has garnered attention in aesthetic medicine as a possible alternative or adjuvant therapy for melasma. Previous studies have shown that TGF-b1 in PRP can inhibit melanin synthesis by delaying activation of extracellular signal-regulated kinase.

Platelet derived growth factor (PDGF) in PRP may also lead to increased skin volume (angiogenesis, collagen synthesis and extracellular matrix formation), resulting in reduced pigmentation and skin luster. The curative effect of PRP is not only related with pigment metabolism, but also with its multiple repair function, its antibacterial or anti-inflammatory effect and its skin imperceptible blood-vessel remodeling function, all of which play a role in the several major pathology and pathogenesis of melasma, namely impaired skin barrier function, inflammation, pigment metabolic disorders and vascular changes. Hence, PRP has promise as an effective treatment with fewer side effects and less rebound hyperpigmentation than other melasma treatments.

Keywords : melasma, Platelet-rich plasma (PRP), adjuvant therapy

# PRP Preparation

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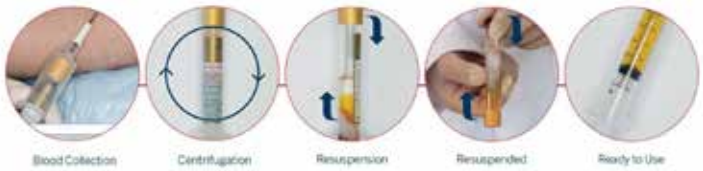




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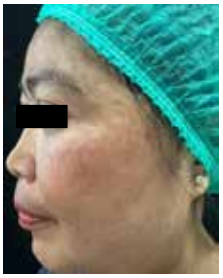

H 1 month


Mexameter

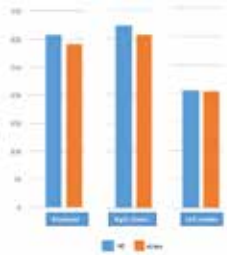
Ny.A, 51 years old, melasma
1 session of PRP
1 Therapy : moisturizer and sunscreen



BIOBRIDGE® FOUNDATION


H0


H 1 month


Mexameter

Ny.ys, 55 years old, melasma
1 session of PRP
Therapy : moisturizer and sunscreen

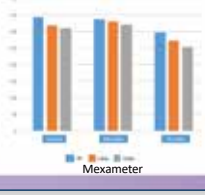


BIOBRIDGE® FOUNDATION


H0


H 1 month


H 2 month


Mexameter

Ny.DP, 54 years old, melasma
2 session of PRP
Therapy : moisturizer and sunscreen

**7 Habits for Highly Effective PRP – A Coveyian Approach to Using Orthobiologics in the Clinic**

Patrick O.L. Goh
MBBS (Singapore), MSS, FAMS(Sports Medicine), PBM (SINGAPORE)

# Dr. Patrick O.L. Goh

**MBBS (S'pore), MSS, FAMS(Sports Medicine), PBM**
**Sports Medicine International,**
**Camden Medical Centre, Singapore.**

Dr. Goh had served for 14 years at Singapore Sports Council's Sports Medicine Centre, and was team doctor for Singapore's athletes at 2 Olympic Games, and several continental and regional games.

He pioneered point-of-care musculoskeletal (MSK) ultrasound and ultrasound-guided procedures (including injections and ESWT) in Singapore in the 90's. In 2007, he became Singapore's first sports physician to incorporate platelet-rich plasma into his daily sports medicine practice. His expertise in these areas has led to numerous lectures and workshops around the world, including the USA, Europe, China, Korea, South-East-Asia and Australia.

ABSTRACT

## 7 Habits For Highly Effective PRP – A Coveyian Approach to Using Orthobiologics in the Clinic

Author Stephen Covay's most famous work, "The 7 Habits of Highly Effective People", provides a holistic, integrated and principle-centered approach to personal and professional situations.

Blending Covey's approach with nearly two decades of clinical PRP experience, this presentation applies the "7 Habits" approach to the professional growth of PRP practitioners, as well as the mindful and effective use of PRP as a clinical tool.

The 7 Habits are:
Be proactive. Always act to understand and improve a situation. Eg. Mixed results with PRP are common, but seeking to understand why cases fail or succeed is a proactive step which results in improved outcomes.

Begin with the end in mind. Unlike surgery, PRP injections are usually not structural interventions. PRP's end goals are usually represented as symptomatic, functional and directional.

Put first things first. An "urgency vs. importance" quadrant analysis may suggest the most effective positioning of PRP in a treatment algorithm.

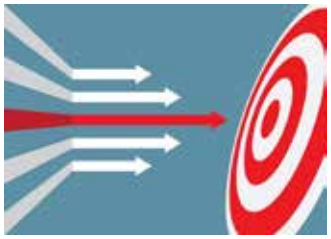
Think win–win.
Seek first to understand, then to be understood. Together with the previous habit, these are core tenets of patient centricity and clinical reasoning, both highly relevant in PRP usage.

Synergize. Many RCT's compare PRP against other injectates eg. HA (Hyaluronic acid). However, PRP in combination with HA (eg. RegenLab Cellular Matrix) can be more effective than either one alone. PRP has other synergies, including injection technique and physiotherapy.

Sharpen the saw. The field of MSK ortho-biologics is growing. Constantly practicing and upgrading one's skills and knowledge is essential.

## Realistic Goals for PRP Treatment

- **PRP is not a structural solution**…. (but Surgery is).
  - PRP Outcomes differ from surgery
- **Symptom Goal vs. Cure**
- **Slowing Progression vs. Cure**
- **Short term vs. Medium/long**
- **Durability of outcome**
  - OA
  - Tendinopathy





## Knee OA

Where does Pain come from?

| |
|---|
| Intra-articular |
| Extra-articular |
| Intraosseus |
| Neuropathic |
| Referred |
| Some or all of the above |



## Tendinopathy

WHERE DOES PAIN COME FROM?

- Acute of Chronic?
- Inflammation?
- Tenosynovitis?
- Tensile Loading?
- Tear?
- Impingement?
- Nocioceptive/adhesive scar?
- Ingrowth of Nerves?



## #6 - Synergize

*Covey:* "two heads are better than one…. creative cooperation…. teamwork, open-mindedness, …. finding new solutions to old problems."

PRP is a Team Player

- With Patient's cooperation
- With Physiotherapy
- With HA
- With other procedures,
  - ESWT,
  - TENEX,
  - Surgery

MSK |
**Tendon & Ligament injection (Cellular Matrix)**
Wesley Chih-Chun Chen
MD, CIPS (TAIWAN, R.O.C.)

# Dr. Wesley Chih-Chun Chen

**CURRENT POSITIONS**

- **President of International Medical Education Society (IMES)**
- **Chief Executive Officer of Wesley International Medical Education Center (WIMEC)**
- **Director of Taiwan Neuromusculoskeletal Ultrasound Society (TNMSKUS)**
- **Superintendent of Purple Sun Physical Medicine and Rehabilitation and Regenerative Medicine Center**

Dr. Wesley C.C. Chen set up Wesley International Medical Education Center (WIMEC) and has been using medical ultrasound in clinical affairs for years and teaching Diagnostic ultrasound scanning and ultrasound-guided injection in neuromusculoskeletal field in medical centers and workshops in Taiwan, Australia, United States, Philippines and other Asian countries. The faculty members of WIMEC are Medical Specialists ( PM&R, Rheumatology, Neurosurgery, Plastic Surgery, Radiology, Cardiology....., etc.) who are in the leading position in their field, Chief Attendings in Medical centers and well experienced Scholars/Professors in Medical Universities in Taiwan, United States, Australia and many other countries.

ABSTRACT

## Tendon & Ligament Injection (Cellular Matrix)

Platelet-rich plasma (PRP) combined with hyaluronic acid (HA) is emerging as a promising treatment for tendon and ligament injuries. PRP, derived from the patient's blood, is rich in growth factors that promote tissue repair and regeneration. When injected into injured tendons or ligaments, PRP stimulates cellular proliferation, collagen production, and healing processes. Hyaluronic acid, a naturally occurring substance in the body, enhances this effect by providing lubrication, reducing inflammation, and creating a scaffold for tissue regeneration. The combination of PRP and HA offers synergistic benefits, accelerating healing and reducing pain more effectively than PRP alone. This approach has shown positive outcomes in treating conditions such as tendinopathies, partial ligament tears, and chronic tendon injuries, where traditional treatments may be less effective. Clinical studies suggest that PRP-HA injections improve functional recovery, reduce downtime, and potentially decrease the need for surgical intervention. While further research is needed to optimize protocols and confirm long-term efficacy, the use of PRP combined with HA represents a promising advancement in the non-surgical management of tendon and ligament injuries.

## HA/PRP increases cartilage tissue synthesis and regeneration

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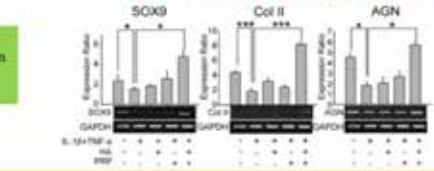
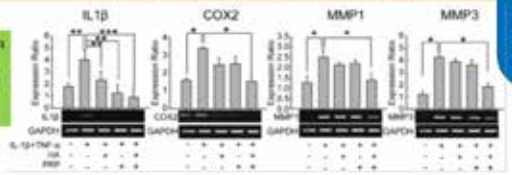
cartilage regeneration related protein




Inflammation and degradation related proteins




HA/PRP can effectively induce the production of chondrocytes, type II collagen, and the expression of Aggrecan ; in addition, it can also reduce the expression of inflammation and degradation factors.

32

## HA/PRP is better than PRP and HA alone

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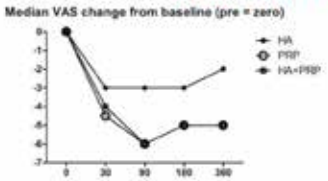
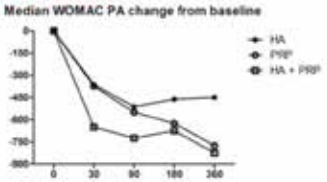



pain relief




Improved mobility

- In the VAS pain assessment scale, the effects and duration of PRP and HA/PRP are far better than those of HA
- In the WOMAC PA activity assessment scale, HA/PRP showed significant improvement within three months, and the effect was slightly better than PRP after about half a year.

Lana, José FSD, et al. *Journal of stem cells & regenerative medicine* 12.2 (2016): 69.

40

## Hip Joint

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## PRP for TKA patient

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MSK |
**Synergistic Applications of PRP and other Biologic Modalities: The Future Trends**

Jen-Li Pan
MD, CIPS, EMBA (TAIWAN, R.O.C.)

# Dr. Jen-Li Pan

**Physical Medicine and Rehabilitation**

Dr. Jen-Li Pan is a board-certified physiatrist specializing in ultrasound-guided regenerative pain interventions focused on systemic thinking and the root causes of pain. In practice, Dr. Pan has been integrating platelet-rich plasma (PRP), dextrose prolotherapy, percutaneous needle tenotomy(PNT), hydrorelease/hydrodissections (HR/HD), and intra-articular hyaluronate (HA) injections into orchestrated protocols for various clinical pain syndromes. Dr. Pan is currently the Executive Director of the Taiwan Pain Society (TPS), Director of the Taiwan Branch of the World Institute of Pain (WIP), and Academic Consultant of the Taiwan Association of Prolotherapy and Regenerative Medicine (TAPRM). He runs a solo practice clinic (PAN Regenerative Pain Clinic) in Taipei and serves as an attending physician in the department of Physical Medicine & Rehabilitation at Taipei Medical University Hospital.

ABSTRACT

## Synergistic Applications of PRP and Other Biologic Modalities: The Future Trends

The use of platelet-rich plasma (PRP) and other biologic modalities in medical treatments is rapidly expanding, offering promising future trends in regenerative medicine and enhancing clinical outcomes across various fields. PRP, an autologous concentration of platelets in plasma, is rich in growth factors that promote tissue healing and regeneration. When synergistically combined with other biologic treatments, such as cell-based therapy, hyaluronic acid, extracellular vesicles (EVs), or scaffold products, the efficacy of PRP can be significantly enhanced. These combinations can potentially lead to more efficient healing processes, reduced recovery times and improved patient outcomes.

Recent studies suggest that the integration of PRP with cell therapy can augment the regenerative potential of both modalities. Stem cells provide a robust foundation for tissue repair, while PRP delivers the necessary growth factors to stimulate and direct this process. Similarly, the combination of PRP with hyaluronic acid has shown promise in treating osteoarthritis, enhancing cartilage regeneration, and providing symptomatic relief.

Future trends indicate a growing interest in personalized medicine, where PRP and other biologics are tailored to individual patient needs based on genetic, biochemical and lifestyle factors. Advances in biotechnology are expected to optimize the preparation, concentration and delivery of PRP, potentially improving its efficacy in clinical settings. Moreover, ongoing research into the molecular mechanisms underlying these synergistic effects could lead to new therapeutic protocols and applications in orthopedics, dermatology, dentistry and beyond.

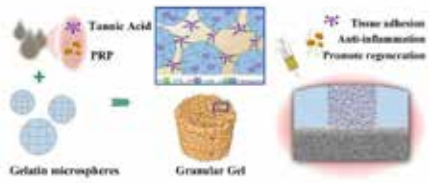
> Regen Biomater. 2023 Nov 21;11:rbad104. doi: 10.1093/rb/rbad104. eCollection 2024.

## Tissue adhesive, ROS scavenging and injectable PRP-based 'plasticine' for promoting cartilage repair

Shiao Li [1], Dawei Niu [1], Haowei Feng [2], Yancheng Chen [1], Jinyan Li [2], Kunxi Zhang [2], Jingbo Yin [2], Peifang Fu [1]

Affiliations + expand

PMID: 38235061 PMCID: PMC10793072 DOI: 10.1093/rb/rbad104




granular hydrogel carrying PRP not only exhibited well-performed injectability but also performed like a 'plasticine' that possessed good plasticity.

The granular hydrogel showed tissue adhesion ability and reactive oxygen species scavenging ability.

Granular hydrogel carrying PRP transplanted to full-thickness articular cartilage defects could integrate well with native cartilage, resulting in newly formed cartilage articular fully filled in defects and well-integrated with the native cartilage and subchondral bone.

Review. J Biomedicines. 2023 Dec 19;12(12):e. doi: 10.3390/biomedicines12010006.

## The Synergistic Effects of Hyaluronic Acid and Platelet-Rich Plasma for Patellar Chondropathy

Fábio Ramos Costa [1], Márcia da Silva Santos [2], Rubens Andrade Martins [3], Cláudia Bruno Costa [1], Paulo César Haridan [4], Marcos Britto Da Silva [4], Gabriel Ohana Marques Azzini [5,6], Loyddy Pires [5,6], Zarlon Menegassi [4], Gabriel Silva Santos [5,6], José Fábio Lana [5,6,7,8]

Affiliations + expand

PMID: 38275367 PMCID: PMC10815186 DOI: 10.3390/biomedicines12010006


Randomized Controlled Trial. J Appl Oral Sci. 2024 Aug 5;33:e20230442. doi: 10.1590/1678-7757-2023-0442. eCollection 2024.

## Platelet Rich Fibrin Matrix (PRFM) and Peripheral Blood Mesenchymal Stem Cells (PBMSCs) in the management of intraosseous defects - A randomized clinical trial

R Sreeparvathy [1], Sphoorthi Anup Belludi [1], Ashwin Prabhu [1]

Affiliations + expand

PMID: 39106750 PMCID: PMC11321798 DOI: 10.1590/1678-7757-2023-0442

17 patients of both sexes (12 men, 5 women) aged 30-55 years

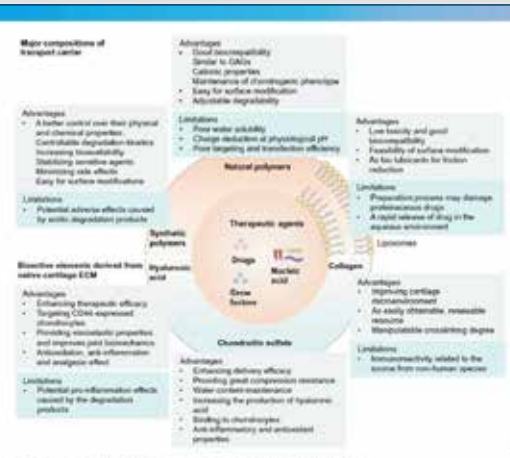
At 6 months, radiographic parameters revealed significant reduction in DD (defect depth, P<0.001) and significant DFP values in the test group compared with the control group.

The supercell showed significant improvement in PPD and CAL at the end of 6 months (P<0.001).

EHI (wound healing index) scores at 1 week showed no statistically significant difference between the test and control groups.

Platelet Rich Fibrin Matrix (PRFM) only

Platelet Rich Fibrin Matrix (PRFM) and Peripheral Blood Mesenchymal Stem Cells (PBMSCs)




## Potential Candidates for Future PRP-Synergistic Applications

Nanomicro Lett. 2021 Dec; 13: 149.

MSK |
**Ultrasound Guided Regenerative Injection Therapy on Fascia**

King Hei Stanley Lam
MBBS(HK), FHKMScSEM, MScSMHS, PGDipMSM(Otago), RMSK, CIPS, FIPP, POCUS (MSK)(HONGKONG)

# Dr. Stanley Lam

- Postgraduate Diploma in Musculoskeletal Medicine, University of Otago / PGDipMSM (Otago) [2006]
- Fellow of the Hong Kong Academy of Medicine (Family Medicine) / FHKAM (Family Medicine) [2007]
- Master of Science in Sports Medicine and Health Science, The Chinese University of Hong Kong / MScSMHS(CUHK) [2011]
- Postgraduate Diploma in Sport and Exercise Medicine, University of Bath / PGDipSEM (Bath) [2012]
- Specialist in Family Medicine

ABSTRACT

## Ultrasound-Guided Regenerative Injection Therapy of Fascial Disorders Using Platelet-Rich Plasma

Ultrasound-guided regenerative injection therapy has emerged as a promising treatment modality for various musculoskeletal conditions, particularly those involving fascia. Platelet-rich plasma (PRP), derived from autologous blood, is known for its regenerative properties and potential to enhance healing.

This presentation aims to evaluate the efficacy, special techniques and safety of ultrasound-guided PRP injections in the treatment of fascial injuries and disorders. A case series of patients with diagnosed fascial conditions were recruited for the study. Each participant underwent ultrasound assessment to identify the targeted fascia for injection. PRP was prepared using a standardized protocol, and injections were performed under real-time ultrasound guidance to ensure precision. Outcome measures included pain reduction, functional improvement, and overall patient satisfaction, assessed at baseline, immediately after injection, 6 weeks, and 12 weeks post-injection.

Preliminary findings indicate significant improvements in pain scores immediately after injection and pain scores and functional outcomes at both follow-up intervals. The ultrasound-guided approach allowed for accurate delivery of PRP, minimizing complications and enhancing therapeutic effects.

In conclusion, ultrasound-guided PRP injection therapy appears to be a safe and effective option for treating fascial injuries. Further studies with larger sample sizes and longer follow-up periods are warranted to solidify these findings and optimize treatment protocols.

**Key takeaways:**
Ultrasound-guided PRP injection therapy is a safe and effective treatment option for fascial injuries and disorders.

The ultrasound guidance allows for accurate delivery of PRP, maximizing the therapeutic potential.

Significant improvements in pain, function, and patient satisfaction were observed in the study participants.

Further research with larger sample sizes and longer follow-up periods is warranted to confirm these findings and optimize treatment protocols.

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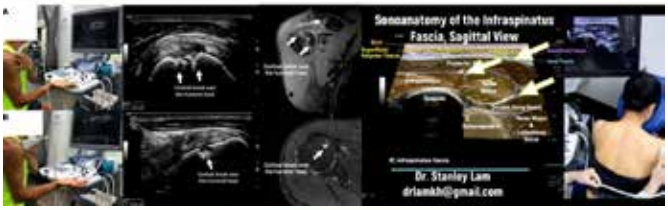
diagnostics | BIOBRIDGE® FOUNDATION | KHLAM

**Infraspinatus Fascial Dysfunction as a Cause of Painful Anterior Shoulder Snapping: Its Visualization via Dynamic Ultrasound and Its Resolution via Diagnostic Ultrasound-Guided Injection**

by King Hei Stanley Lam, Daniel Chiung Jui Su, Yung-Tsan Wu, Marie Fajardo Pérez, Kenneth Dean Reeves, Philip Peng and Bradley Fullerton



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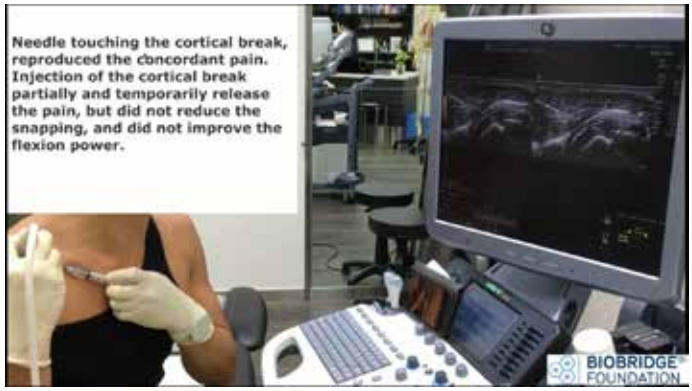
Needle touching the cortical break, reproduced the concordant pain. Injection of the cortical break partially and temporarily release the pain, but did not reduce the snapping, and did not improve the flexion power.



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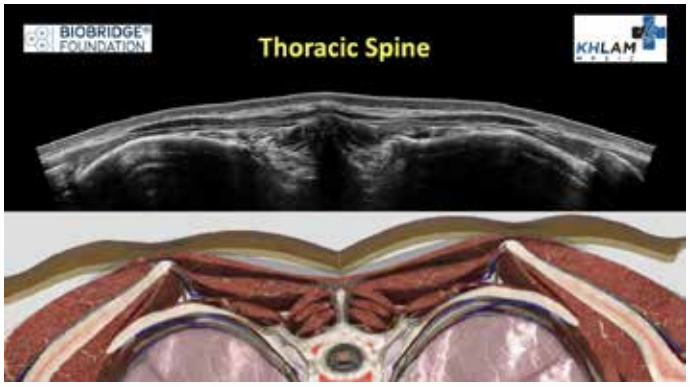




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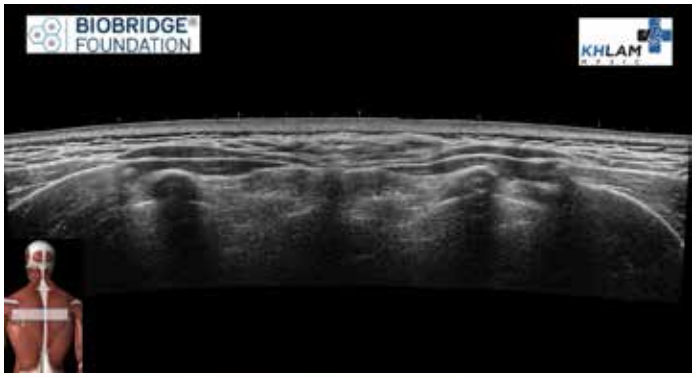

MSK |
**Efficacy of Ultrasound Guided PRP Injection for the Management of Supraspinatus Tendonitis**
Hoang Van Dung
MD, PhD (HANOI, VIETNAM)

# Dr. Hoang Van Dung

**PROFESSIONAL EXPERIENCE**

**2020-2024**

- **Director of Haiphong International Hospital**
- **Rheumatologist and Head of Rheumatology and Immunology department of Haiphong International Hospital**
- **Member of executive**

USING PRP EXPERIENCE

2014 - Present

- Using PRP in OA treatmnent for Knee, Hip, Shouder joint under ultrasound-guided
- Using PRP in treatment of Tendonitisn (Rotator cuff, Epicondylitis, Achilles tendinitis...)
- Using PRP in treatment of low back pain under ultrasound-guided

ABSTRACT

## Efficacy of ultrasound guided platelet rich plasma injection for the management of Supraspinatus Tendonitis

Supraspinatus tendonitis is a common shoulder joint condition. The pathophysiological process is influenced by structural and vascular changes associated with aging and mechanical impact. Therefore, regulating degeneration, stimulating tendon growth and modifying movement intensity and techniques are the primary goals in treating supraspinatus tendonitis. Current treatments include medical therapy, rehabilitation, physical therapy, risk factor elimination and tendon repair surgery. Among these, Platelet-Rich Plasma (PRP) therapy has been proven and applied as a regenerative medical method.

Our hospital has utilized autologous PRP therapy for over 10 years in treating osteoarthritis, tendinopathy, and low back pain conditions. We conducted a study from 2023 to 2024 to evaluate the effectiveness of ultrasound guided platelet rich plasma injection for the management of Supraspinatus Tendonitis. Each patient received two PRP injections, 4 weeks interval, using the RegenLab kit, and the effectiveness was assessed by pain scales (VAS), functional movement scores (SPADI), and MRI. The results indicated improvements in pain levels, range of motion, and patient satisfaction. In conclusion, autologous PRP therapy is effective in treating supraspinatus tendonitis.

# BioBridge Hanoi | ASIA
# December 7, 2024

**The effectiveness of ultrasound guided platelet rich plasma injection for the treatment of supraspinatus tendonitis** HOANG VAN DUNG Phd. Md

Hai Phong International Hospital

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1. • Blood Sample Taking
2. • Centrifugation
3. • Platelet Resuspension
4. • Collecting PRP

## RESEARCH RESULTS: SPADI (Shoulder Pain And Disability Index)

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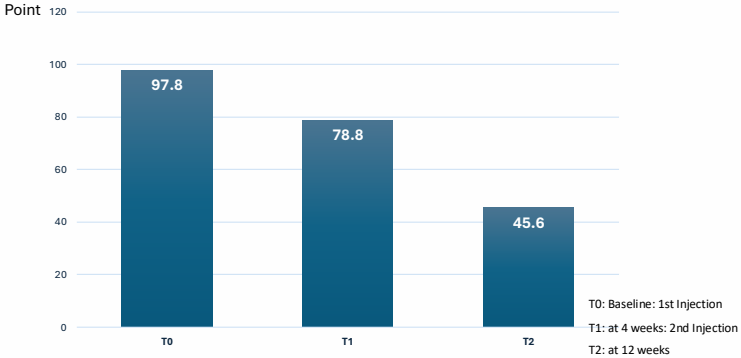
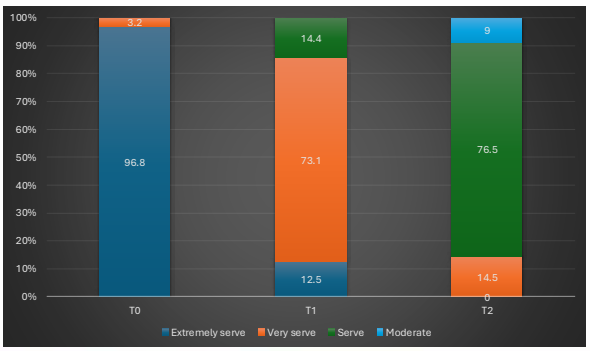



T0: Baseline: 1st Injection
T1: at 4 weeks: 2nd Injection
T2: at 12 weeks



## RESEARCH RESULTS: SPADI (Shoulder Pain And Disability Index)

BIOBRIDGE® FOUNDATION




T0: Baseline: 1st Injection
T1: at 4 weeks: 2nd Injection
T2: at 12 weeks

MSK |
**The Use of Musculoskeletal Ultrasound in Regenerative Injection Therapy**

Mark Lai Wai Wah
MBBS (HKU), MScSM&HS (CUHK), CIPS (WIP) (HONG KONG)

# Dr. Mark Lai Wai Wah

- **Musculoskeletal and Sports Physician in Hong Kong.**
- **Bachelor of Medicine and Bachelor of Surgery from The University of Hong Kong.**
- **Post-graduate Diploma of Musculoskeletal Medicine from The University of Otago.**
- **Master of Sports Medicine and Health Sciences from The Chinese University of Hong Kong.**
- **Registered in Musculoskeletal Sonography from Alliance for Physician Certification and Advancement in Ultrasound.**
- **Certified Interventional Pain Sonologist from World Institute of Pain.**
- **President of Hong Kong Institute of Musculoskeletal Medicine.**
- **Honorary Clinical Assistant Professor of The University of Hong Kong.**
- **Dr. Lai specialized in diagnosing pain problems with musculoskeletal ultrasound and the use of non-operative modalities including regenerative injectional therapy to treat patients.**

ABSTRACT

## The use of musculoskeletal ultrasound in regenerative injection therapy

Regenerative injection therapy is the hottest topic around the world. Many doctors claim that they are injecting PRP but without the use of ultrasound. In my lecture, I would like to point out the importance of using musculoskeletal ultrasound when doing regenerative injection treatments.

I divided the advantage into before and after diagnosis is made.

Musculoskeletal ultrasound can help doctors in making correct diagnosis. I will explain how musculoskeletal ultrasound can help us in making correct diagnosis with case study.

After making diagnosis, musculoskeletal ultrasound can help us to offer more accurate information delivering the regenerative injection medium to the exact target during the intervention. To elaborate this, cases will be shown and discussed during the lecture.

## Musculoskeletal Ultrasound

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Why using USG in PIT?

Two main functions

Recognise the lesion (Diagnosis)

Guide the treatment putting PRP to the lesion (Accurc

## Case

BIOBRIDGE® FOUNDATION

THE ARCHIVES OF BONE AND JOINT SURGERY
ABJS

Arch Bone Jt Surg. 2019 Mar; 6(2): 146–148.

PMCID: PMC5867359
PMID: 29600208

**Healing of Complete Tear of the Anterior Talofibular Ligament and Early Ankle Stabilization after Autologous Platelet Rich Plasma: a Case Report and Literature Review**

Mark Wai Wah Lai, MSc SMHB and Regina Wing Shan Sit, MBBS

› Author information › Article notes › Copyright and License information Disclaimer



**Abstract** Go to

Lateral Ankle sprain (LAS) is a common sports injury associated with recurrent ankle sprain, chronic ankle instability (CAI) and post-traumatic ankle osteoarthritis (PTOA). Platelet Rich Plasma (PRP) has been increasingly used for therapeutic applications in sports-related injuries, and is thought to stimulate tissue healing. We reported a case of LAS with complete tear of anterior talofibular ligament, which showed complete healing of ligament and early ankle stabilization after PRP. The healing is supported by dynamic ultrasound images and magnetic resonance imaging. We therefore proposed that PRP may serve as an alternative non-surgical treatment option in LAS in future research, with the potential to prevent the development of CAI and PTOA.

## Case

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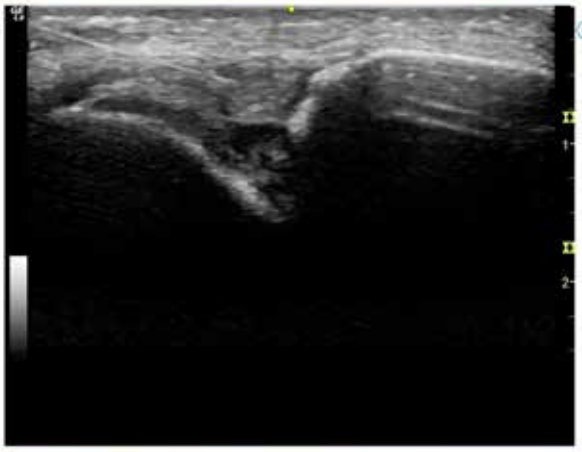

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**Apart from making CORRECT DIAGNOSIS**

**it can help you to place needle to the lesions**

**1. AVOID DANGER ZONES**

**2. INJECT ACCURATELY**

**3. ONE ENTRY MULTIPLE TARGETS**

**4. WITHOUT RADIATION EXPOSURE**

MSK |
**The Effectiveness of PRP Therapy in the Treatment of Tendinopathies– Vietnam Experience**
Huynh Khoi Nguyen
MD, MSc (HO CHI MINH, VIETNAM)

# Dr. Huynh Khoi Nguyen

**Interests: scientific research, clinical teaching for students, reading the latest medical literature and international publications.**

- Internal Medicine Specialist in Rheumatology and Geriatrics, University Medical Center Ho Chi Minh City
- Lecturer at the University of Medicine and Pharmacy at Ho Chi Minh City
- Executive Committee Member of the Society of Autoimmune Rheumatic Diseases, Ho Chi Minh City
- Specialized in treating degenerative joint diseases and tendinopathies in older adults using PRP therapy

ABSTRACT

## The Effectiveness of PRP Therapy in the Treatment of Tendinopathies – Vietnam Experience

Tendinopathies, characterized by pain and dysfunction of the tendons, pose a significant challenge in musculoskeletal medicine. Platelet-rich plasma (PRP) therapy, known for its regenerative potential, has gained traction as a treatment option. This presentation provides a comprehensive literature review on the effectiveness of PRP therapy in treating tendinopathies, with a focus on studies and clinical experiences relevant to the Vietnamese medical context. We examine the mechanisms by which PRP promotes tendon healing, including its role in modulating inflammation and enhancing tissue regeneration. Additionally, the review highlights various clinical outcomes, comparing PRP therapy to conventional treatments, discussing its applicability and effectiveness in Vietnam. The synthesis of current evidence suggests that PRP therapy is a promising intervention for tendinopathies, offering a potential alternative for patients, especially those who have not responded to standard treatments. The presentation will also address the challenges and considerations for implementing PRP therapy in Vietnam, aiming to provide insights for clinicians and researchers.

# PRP Preparation Technique

**The simple, safe and efficient point of care preparation of autologous platelet-rich plasma**


## RegenKit® technology

The RegenKit THT are medical devices intended for the preparation of RegenPRP. RegenTHT tubes are made of pharmaceutical grade glass with a vacuum for automated blood collection. They contain a sodium citrate anticoagulant solution and a separating gel to separate plasma and platelets from the blood cells and produce RegenPRP with a citrate blood composition.

| | BLOOD SAMPLE VOL. PER TUBE | PRP-VOL PER TUBE | PLATELET RECOVERY | RED BLOOD CELL DEPLETION | PLATELET CONCENTRATION FACTOR (NATIVE) |
|---|---|---|---|---|---|
| RegenTHT Tube Properties | 10 ml | 5 to 5 ml | > 90 % | > 50 % | 1.7 x |

- User-independent standardised preparation
- **Minimum volume of blood required**
- Safe closed-circuit system
- Mechanical isolation of PRP using a biologically inert separator gel after a **9-minutes centrifugation**
- Reversible anticoagulation with a pharmaceutical grade solution of sodium citrate at pH 7
- Minimal learning curve and ease of use
- Operationally and clinically efficient process
- Facilitates and streamlines routine practice

# PRP in the Treatment of Tendinopathies

REVIEW Open Access

Platelet-rich plasma for tendinopathy and osteoarthritis: a narrative review

**Table 1** PRP in tendinopathy: a review of the most recent studies

| Study | Diagnosis | Patients | F up | Results |
|---|---|---|---|---|
| Audenino et al. (2020) [34] | Hamstring tendinopathy | 22 | 6 months | A 50% reduction of pain, functional outcomes improved |
| Scott et al. (2019) [34] | Patellar tendinopathy | 81 | 12 months | No more effective than saline for the improvement of symptoms |
| Levy et al. (2018) [35] | Hamstring tendinopathy | 29 | 8 weeks | No improvement on clinical outcomes |
| Liu et al. (2019) [36] | Achilles tendinopathy | 189 | - | Not superior to placebo treatment |
| Ibrahim et al. (2018) [37] | Rotator cuff tendinopathy | 33 | 7 weeks | A significant improvement of pain, DASI and ROM |
| Chen et al. (2020) [38] | Rotator cuff tears | 1116 | - | Rerear rates were significantly decreased |
| Uchemiak et al. (2020) [39] | Lateral epicondylitis | 119 | 52 weeks | No improved pain or function |
| Huang et al. (2020) [40] | Elbow epicondylitis and plantar fasciitis | 1366 | - | Long-term functional improvement |
| AlAnsi et al. (2020) [41] | Plantar fasciitis | 389 | - | Effective and safe treatment option |
| Lin et al. (2020) [42] | Rotator cuff tendinopathy | 283 | 24 weeks | Effective in reducing pain in the long term (over 2 weeks) |

**PRP is a potential therapy** for pain control and improvement of functional movement in patients with tendon disorders

Shiraz, R. Platelet-rich plasma for tendinopathy and osteoarthritis: a narrative review. *Bull Fac Phys Ther* **26**, 10 (2021). https://doi.org/10.1186/s43161-021-00028-w

# Effectiveness of PRP in the treatment of partial supraspinatus tear

- **Results:**
  - **Pain Improvement (VAS):** Reduced from 6.74 ± 0.96 to 3.07 ± 1.87 points.
  - **SPADI Score Improvement:** Decreased from 59.14 ± 8.7 to 27.61 ± 16.1 points.
  - **Shoulder Abduction Angle:** Increased from 70.23 ± 18.54 degrees to 130.4 ± 38.2 degrees.

| Measure | W0 | W4 | W8 | W12 |
|---|---|---|---|---|
| VAS | 6.74 ± 0.96 | 5.21 ± 1.04 | 4.26 ± 1.12 | 3.07 ± 1.87 |
| Shoulder Joint Abduction Angle | 70.23 ± 18.54 | 89.17 ± 25.25 | 109.1 ± 31.5 | 130.4 ± 38.2 |
| SPADI | 59.1 ± 8.73 | 48.79 ± 12.25 | 36.79 ± 12.25 | 27.61 ± 16.1 |

$p < 0.05$

Nguyễn Thị Phương, TẠP CHÍ Y HỌC VIỆT NAM TẬP 504 - THÁNG 7 - SỐ 2 - 2021

# Conclusions

- PRP has the potential to reduce inflammation, repair and regenerate tissue, and accelerate the healing process, etc.
- PRP is an effective therapy for managing chronic musculoskeletal pain, especially tendinopathies.
- PRP has demonstrated effectiveness in pain control and improvement of tendon function through multiple meta-analyses, systematic reviews, and RCTs.
- The selection of PRP therapy should be personalized for each patient to achieve optimal therapeutic outcomes.

**Intercontinental Hanoi Westlake**
05 P. Từ Hoa, Quảng An, Tây Hồ I Hanoi