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**Name of Journal:** *World Journal of Stem Cells***Manuscript NO:** 59741**Manuscript Type:** MINIREVIEWS

## Platelet-Rich Plasma *vs* Bone Marrow Aspirate Concentrate: An Overview of Mechanisms of Action and Orthobiologic Synergistic Effects

Platelet-Rich Plasma *vs* Bone Marrow Aspirate Concentrate

### Abstract

The use of orthobiologics as a novel therapy for the treatment of numerous musculoskeletal disorders has increased considerably over the past decade. Currently, there are multiple alternatives available as suitable treatments; however, the use of autologous blood-derived products such as platelet-rich plasma (PRP), bone marrow aspirate (BMA) and bone marrow aspirate concentrate (BMAC), specifically, is expanding. Although many investigations attempted to demonstrate the effectiveness of these therapies, even with positive results, the literature lacks standardized protocols

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## Effect of Bone Marrow Aspirate Concentrate-Platelet-Rich ...

<https://journals.sagepub.com/doi/full/10.3727/096368917X694705>

May 01, 2017 · After 1 day of incubation, cell proliferation was nearly identical in tendon-derived stem cells (TDSCs) and TDSCs cocultured with **bone marrow aspirate concentrate-platelet-rich plasma** (BMAC-PRP) complex. Cell proliferation was significantly greater in TDSCs cocultured with BMAC-PRP than in TDSCs at 3, 5, 7, and 9 days. \* $p < 0.05$ .

**Cited by:** 19

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**Publish Year:** 2017

## (PDF) Understanding the Role of Platelet Rich Plasma, Bone ...

[https://www.researchgate.net/publication/335611622\\_Understanding\\_the\\_Role\\_of\\_Platelet\\_Rich\\_Plasma\\_in\\_Bone\\_Regeneration](https://www.researchgate.net/publication/335611622_Understanding_the_Role_of_Platelet_Rich_Plasma_in_Bone_Regeneration)

All 3 received a single **bone marrow aspiration concentrate** (BMAC) injection followed one month later by a **platelet-rich plasma** (PRP) injection. Compared with the baseline values, pain and ...

## Bone marrow concentrate promotes bone regeneration with a ...

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5773187>

Next, 3 ml of **plasma** containing both concentrated mononuclear cells (MNCs) and platelets (PLTs) was isolated from 30 ml of each **aspirate** and termed as **bone marrow concentrate** (BMC) and **platelet-rich plasma** (PRP), respectively, using an automated blood cell separator (Magellan MDK 305; Ateriocyte Medical System, Cleveland, OH, USA) according to ...

**Cited by:** 5

**Author:** Kazuhiro Egashira, Yoshinori Sumita, W...

**Publish Year:** 2018

## Bone marrow aspirate clot: A feasible orthobiologic ...

<https://www.sciencedirect.com/science/article/pii/S0976566220303015>

Oct 01, 2020 · Amongst the main biologic products are the **platelet-rich plasma** - PRP (with [L-PRP] or without [P-PRP] leukocytes), cell allografts and, BMA and **bone marrow aspirate concentrate** (BMAC). 5, 6 The whole body of literature in this regard is rapidly growing and ...



Platelet-Rich Plasma versus Bone Marrow Aspirate Concentrate: An



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## Effect of Bone Marrow Aspirate Concentrate-Platelet-Rich ...

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May 01, 2017 · After 1 day of incubation, cell proliferation was nearly identical in tendon-derived stem cells (TDSCs) and TDSCs cocultured with **bone marrow aspirate concentrate-platelet-rich plasma** (BMAC-PRP) complex. Cell proliferation was significantly greater in TDSCs cocultured with BMAC-PRP than in TDSCs at 3, 5, 7, and 9 days. \* $p < 0.05$ .

**Cited by:** 19**Author:** Sun Jeong Kim, Da Hyun Song, Jong Wook ...**Publish Year:** 2017

## Bone Marrow Aspirate Concentrate and Platelet-rich Plasma ...

<https://www.researchgate.net/publication/261802474...>

To the editor, We read the article by Lee and colleagues with great interest [3]. Although the authors found that the combination of **bone marrow aspirate concentrate** (BMAC) and platelet-rich ...

## (PDF) Understanding the Role of Platelet Rich Plasma, Bone ...

<https://www.researchgate.net/publication/335611622...>

All 3 received a single **bone marrow aspiration concentrate** (BMAC) injection followed one month later by a platelet-rich **plasma** (PRP) injection. Compared with the baseline values, pain and ...

## Assessing clinical implications and perspectives of the ...

<https://www.sciencedirect.com/science/article/pii/S2352320419300033>

Dec 01, 2019 · Autologous biologics, defined as platelet-rich **plasma** (PRP) and **bone marrow aspirate concentrate** (BMC), are cell-based therapy treatment options in regenerative medicine practices, and have been increasingly used in orthopedics, sports medicine, and spinal disorders.

**Cited by:** 13**Author:** Peter A. Everts. Gerard A. Malanda. Rowan ...



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## [The Effectiveness and Safety of Percutaneous Platelet-Rich ...](#)

<https://www.researchgate.net/publication/336860713...>

Objective To determine the effectiveness of platelet-rich **plasma** (PRP) and **bone marrow aspirate concentrate** (BMAC) for the treatment of suspected sacroiliac joint complex (SIJC) pain.

## [\(PDF\) Understanding the Role of Platelet Rich Plasma, Bone ...](#)

<https://www.researchgate.net/publication/335611622...>

All 3 received a single **bone marrow aspiration concentrate** (BMAC) injection followed one month later by a platelet-rich **plasma** (PRP) injection. Compared with the baseline values, pain and ...

## [IJMS | Free Full-Text | PRP and BMAC for Musculoskeletal ...](#)

<https://www.mdpi.com/1422-0067/20/21/5328/htm> ▾

Platelet-rich **plasma** (PRP) and **bone marrow aspirate concentrate** (BMAC) are **orthobiologic** therapies considered as an alternative to the current therapies for muscle, **bone** and cartilage. Different formulations of biomaterials have been used as carriers for PRP and BMAC in order to increase regenerative processes. The most common biomaterials utilized in conjunction with PRP and BMAC ...

**Cited by:** 1

**Author:** Fabio S M Yamaguchi, Shahin Shams, Edua...

**Publish Year:** 2019

## [\(PDF\) Effects of bone marrow aspirate concentrate and ...](#)

<https://www.researchgate.net/publication/322230699...>

16 Kim found that **bone marrow aspirate concentrate**-platelet rich **plasma** (BMAC-PRP) improved pain and shoulder function in patients with partial tear of the rotator cuff tendon. 16 Also Kothari et ...

## [Myths and Facts of In-Office Regenerative Procedures for ...](#)

<https://journals.lww.com/ajpmr/Fulltext/2019/06000/...>

Most commonly used **orthobiologic** agents include autologous agents such as platelet-rich **plasma** (PRP), various types of cells (mainly stem cells from **bone marrow** and adipose), or allogenic agents