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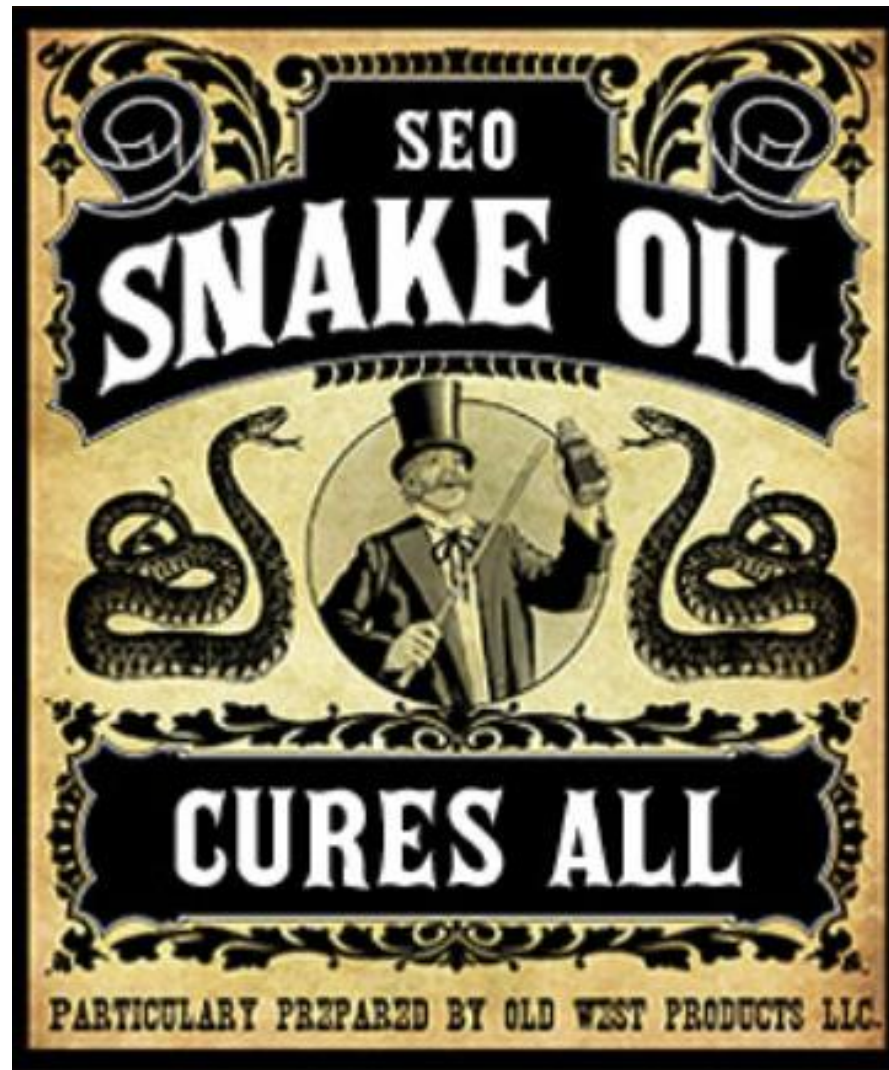


Knee Injection for OA: Separating the Science from the Snake-Oil

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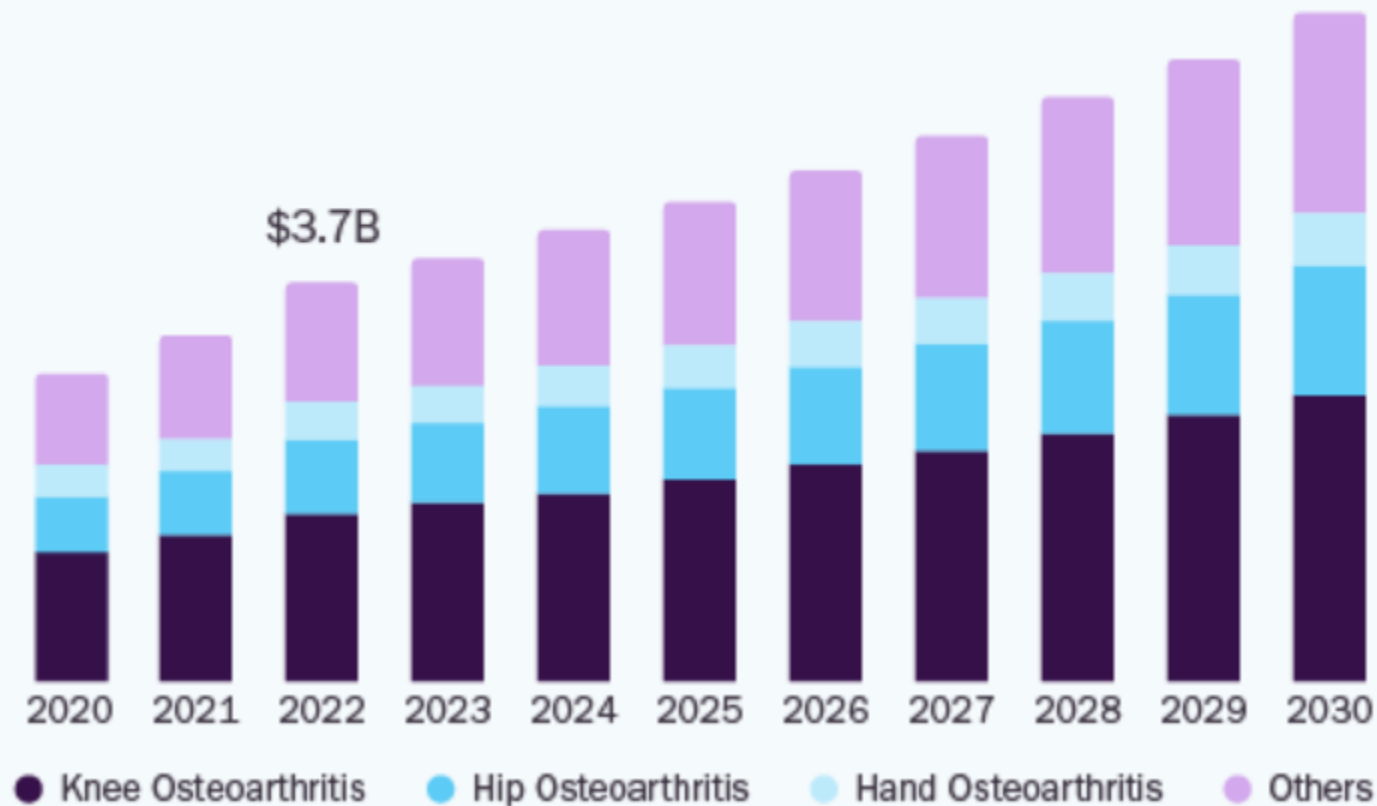


Literature is complicated by

- Variable, fluctuating disease course
- Huge placebo effect
- Variable quality of publications
- Risks of bias
- Industrial sponsorship, possible conflicts of interest

U.S. Osteoarthritis Injectables Market

Size, by Anatomy, 2020 - 2030 (USD Billion)



<https://www.grandviewresearch.com/industry-analysis/us-osteoarthritis-injectables-market-report>

Many things have been tried...

Autologous conditioned serum

Orgotein

Atelocollagen

Sprifermin

Tr14/Ze14

Platelet Rich Plasma

Adipose mesenchymal stem cells

Polyacrylamide hydrogel

Fastibant

Hyaluronic Acid

Lorecivivint

Capsaicin

But nothing works better than kenalog

Osteoarthritis and Cartilage



Review

Effectiveness and safety of intra-articular interventions for knee and hip osteoarthritis based on large randomized trials: A systematic review and network meta-analysis

Tiago V. Pereira # ¶¶, Pakeezah Saadat † ¶¶, Pavlos Bobos ‡ § ¶¶, Samir M. Iskander ¶ ¶¶, Nicolas S. Bodmer † || ¶¶, Martina Rudnicki ## ¶¶, Henry Dan Kiyomoto †† ¶¶, Thais Montezuma ‡‡ ¶¶, Matheus O. Almeida ‡‡ ¶¶, Rishi Bansal # ¶¶, Pai-Shan Cheng §§ ¶¶, Jason W. Busse ¶¶ |||, Alex J. Sutton ¶¶ ###, Peter Tugwell ¶¶ ††† ‡‡‡, Gillian A. Hawker ¶¶ §§§, Peter Jüni # † ¶¶ §§§¹, Bruno R. da Costa # † ¶¶ ¶¶¶ *¹



AMERICAN ACADEMY OF
ORTHOPAEDIC SURGEONS

Management of Osteoarthritis of the Knee (Non-Arthroplasty)

Evidence-Based Clinical Practice Guideline

Adopted by:

The American Academy of Orthopaedic Surgeons Board of Directors
August 31, 2021

Hyaluronic Acid

Hyaluronic acid intra-articular injection(s) is not recommended for routine use in the treatment of symptomatic osteoarthritis of the knee.

Strength of Recommendation: Moderate ★★☆☆ (downgrade)

Evidence from two or more “Moderate” quality studies with consistent findings, or evidence from a single “High” quality study for recommending for or against the intervention. Also requires no or only minor concerns addressed in the EtD framework.

Intra-articular Corticosteroids

Intra-articular (IA) corticosteroids could provide short-term relief for patients with symptomatic osteoarthritis of the knee.

Strength of Recommendation: Moderate ★★☆☆ (downgrade)

Evidence from two or more “Moderate” quality studies with consistent findings, or evidence from a single “High” quality study for recommending for or against the intervention. Also requires no or only minor concerns addressed in the EtD framework.

Platelet-rich Plasma

Platelet-rich plasma (PRP) may reduce pain and improve function in patients with symptomatic osteoarthritis of the knee.









Strength of Recommendation: Limited ★★☆☆ (downgrade)

Description: Evidence from one or more “Low” quality studies with consistent findings or evidence from a single “Moderate” quality study recommending for or against the intervention. Also, higher strength evidence can be downgraded to limited due to major concerns addressed in the EtD Framework.

Orthobiologics



Safety and efficacy of an allogeneic adipose-derived mesenchymal stem cell preparation in the treatment of knee osteoarthritis: A Phase I/IIa randomised controlled trial

Julien Freitag^{a b c}  , Matthew Chamberlain^b , James Wickham^d ,
Kiran Shah^c , Flavia Cicuttini^{e f} , Yuanyuan Wang^e , Ann Solterbeck^g 
Melbourne Stem Cell Centre Research Group^b

Results

- Statistically significant pain improvement
- No statistically significant functional improvement
- No statistically significant increase in cartilage volume
- Placebo with less than expected effect



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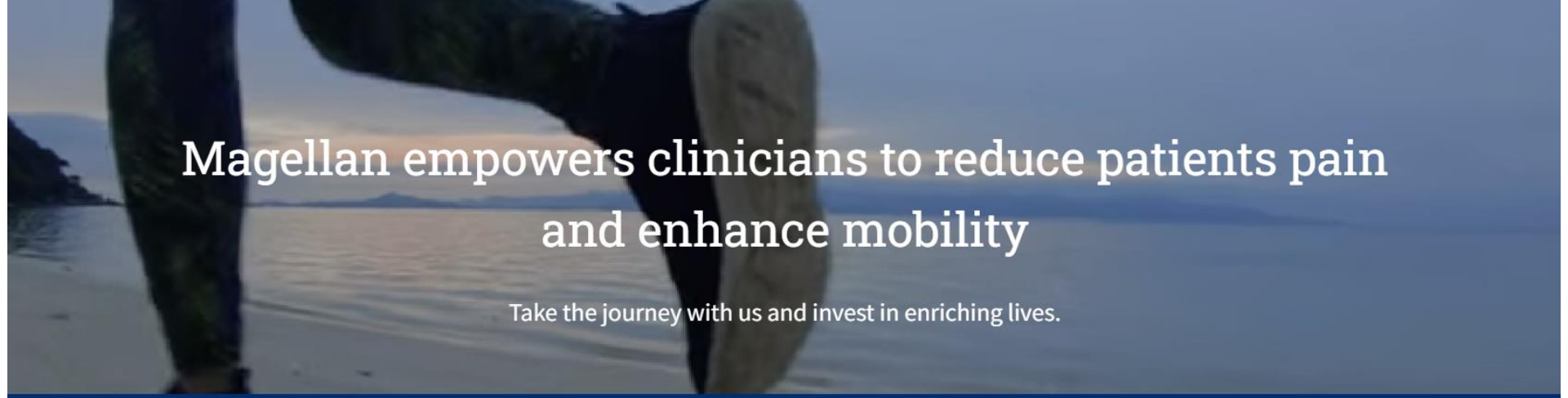
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A photograph of a person's legs and feet walking on a sandy beach. The person is wearing dark pants and a light-colored shoe. The background shows the ocean and a hazy sky, suggesting a sunset or sunrise.

Magellan empowers clinicians to reduce patients pain and enhance mobility

Take the journey with us and invest in enriching lives.

Our product MAG200 will improve the lives of people across the globe who are currently living with joint pain and issues with mobility.

Press interpretation

☰

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SCIENCE

Stem cell shot reverses osteoarthritis, repairs knee cartilage, cuts pain by 58%

Patients experienced a significant reduction in pain, improved their quality of life, and even showed signs of cartilage regrowth.

Updated: Jul 29, 2024 02:58 AM EST

Herald Sun



Stem cell marvel to replace surgery

EXCLUSIVE: STEM cells are being used to regrow damaged knee cartilage in world-first Melbourne trials it is hoped will make many joint replacements and other surgery unnecessary. Doctors have halted damage caused by degenerative conditions, and even reversed it, in one of the first studies to use stem cells to rebuild cartilage in humans.











Cell-based versus corticosteroid injections for knee pain in osteoarthritis: a randomized phase 3 trial

Received: 13 April 2023

Accepted: 5 October 2023

Published online: 2 November 2023

 Check for updates

Ken Mautner ^{1,12} , Michael Gottschalk^{1,12}, Scott D. Boden¹, Alison Akard¹, Won C. Bae², Lora Black³, Blake Boggess⁴, Paramita Chatterjee ⁵, Christine B. Chung², Kirk A. Easley ⁶, Greg Gibson ⁷, Josh Hackel⁸, Katie Jensen³, Linda Kippner ⁵, Chad Kurtenbach³, Joanne Kurtzberg⁹, R. Amadeus Mason¹, Benjamin Noonan¹⁰, Krishnendu Roy¹¹, Verle Valentine³, Carolyn Yeago⁵ & Hicham Drissi¹ 

Four treatment groups:

- Autologous bone marrow aspirate
- Umbilical cord mesenchymal cells
- Adipose stromal vascular fraction
- Corticosteroid injection
- **No differences in pain scores at 1 year**

Recommendations:

- Corticosteroids—Yes
- PRP-Maybe (Is it covered?)
- Hyaluronic Acid-Not first-line
- Stem Cells-Unclear

