

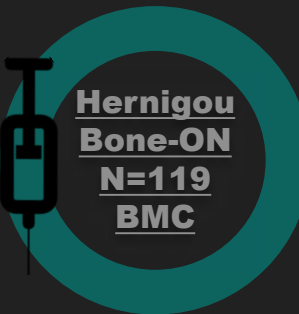
Orthopedic Bone Marrow Stem Cell Research Summary (1997-2016)

Some physicians and scientists argue that we don't have much research supporting the use of bone marrow stem cells to treat orthopedic conditions. While this may be true for some stem cell types, nothing could be farther from the truth for bone marrow. Here I list all significant publications from the late 90s through April 2016. Each circle represents a research study and is hyperlinked to the abstract in the U.S. National Library of Medicine or the full text article. The main author is listed, the area of treatment, the number of patients involved, and the type of bone marrow stem cells used (either Autologous Bone Marrow Concentrate (BMC) or Cultured Mesenchymal Stem Cells (Cult MSC) [autologous or allogeneic]). The scalpel or injection icons represent the three types of delivery techniques: injection, surgical, or both. Centeno-Schultz publications are highlighted.

1997



2000

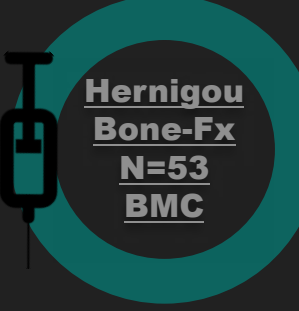


n=8,207

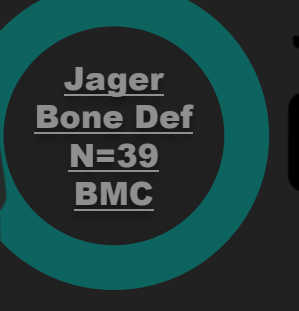
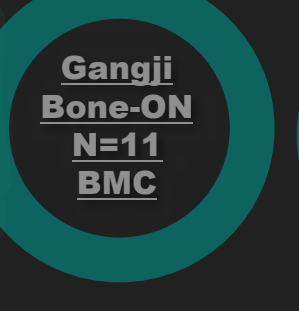
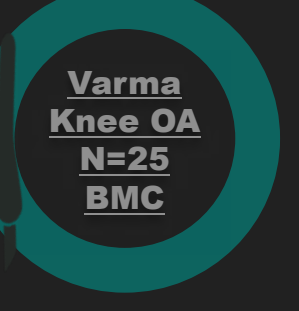
(The patient n is approximate as a few studies list joints instead of patients. On the other hand, several later case studies and small case series were also excluded due to significance. In addition, this number represents total publishing activity as patients from prior studies are likely repeated by later studies.)

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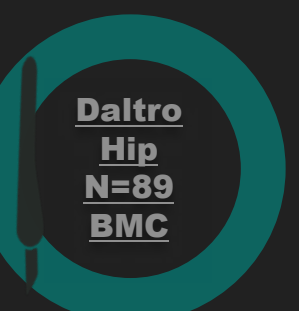
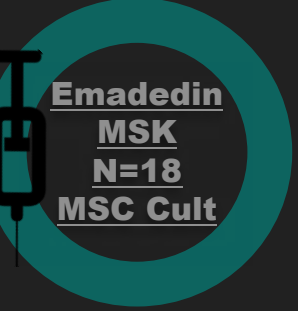
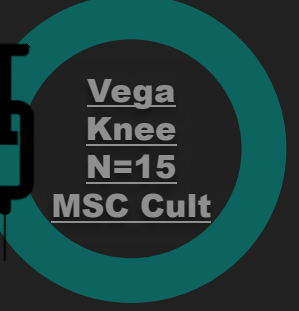
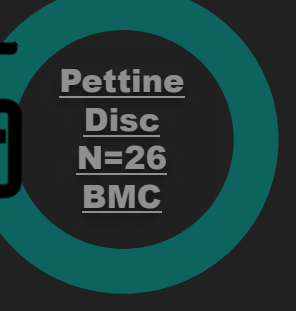
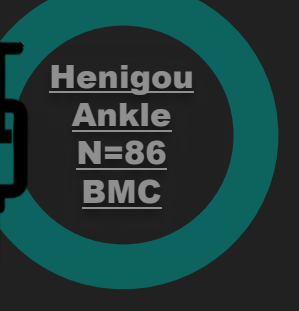
2005



2010



2015



2016

