



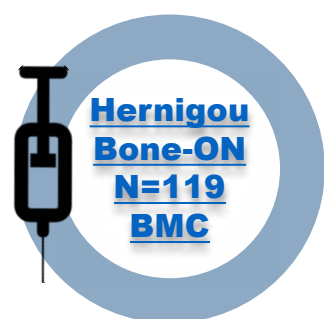
Orthopedic Bone Marrow Stem Cell Research Summary (1997-2015)

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 the use of fat stem cells (which have about a few percent of the published research of bone marrow), nothing could be farther from the truth for bone marrow. Here I list all significant publications from the late 90s through August 2015. 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 type 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.

1997



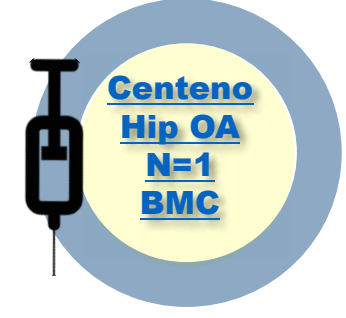
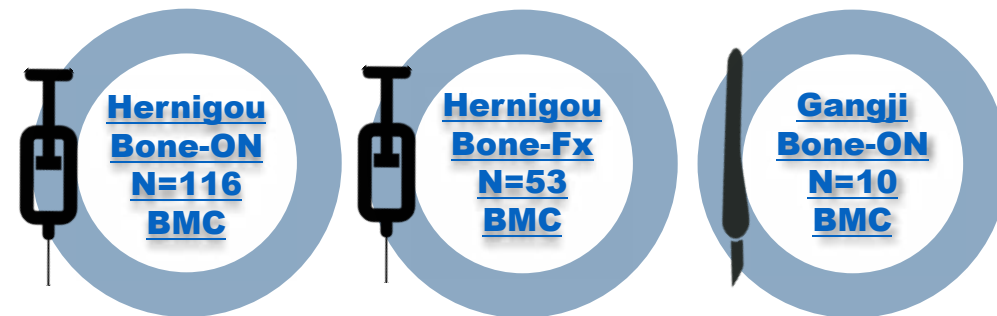
2000



n=5,458

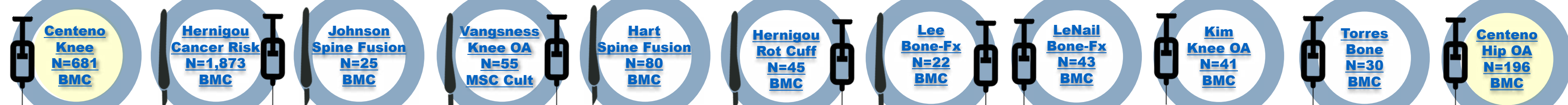
(The patient n is approximate as a few studies list joints instead of patients and others likely report repeated datasets. On the other hand, several later case studies and small case series were also excluded due to significance.)

2005



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2010



2015

