ZIMMER BIOMET

Study Published in *American Journal of Sports Medicine* Validates PJAC as Effective Treatment for Cartilage Defects

Aug 19, 2014

WARSAW, Ind. (August 19, 2014)-A study recently published in the American Journal of Sports Medicine (AJSM) validates the use of particulated juvenile articular cartilage (PJAC) such as *DeNovo*® NT Natural Tissue Graft from Zimmer as a promising, proven new option for adult cartilage repair.

The two-year prospective study, "Clinical, Radiographic, and Histological Outcomes After Cartilage Repair With Particulated Articular Cartilage," covered 25 patients in three clinical centers. The study's conclusion, according to AJSM, is that PJAC treatments such as *DeNovo* NT Graft demonstrate a "rapid, safe and effective treatment for cartilage defects." Furthermore, the study continued, PJAC technique utilizing *DeNovo* NT showed a "significant improvement over baseline, with histologically favorable repair tissue two years postoperatively."

Because adult cartilage lesions have a severely impaired ability to heal, surgical intervention is a common consideration when pain and loss of function reach a certain threshold. Prior to the recent introduction of PJAC, the available cartilage treatments were viewed by most clinicians as limited in terms of patient outcomes, functional improvement and reduced pain.

Even with more than 7,000 surgical implants since the introduction of PJAC treatments like *DeNovo* NT Graft, this was the first known study based on prospective clinical data measuring its impact. It published in the June 2014 issue of AJSM.

The prospective series of 25 patients was comprised of 18 men and seven women enrolled at three surgical centers (Indianapolis, Albuquerque and Chicago), with elective PJAC performed by one surgeon at each center. All patients provided a baseline through preoperative assessment, then measured postoperatively via MRI at three, six, 12 and 24 months.

"The positive clinical outcomes," the study's authors concluded, "represent statistically significant and meaningful clinical outcomes over baseline levels for multiple measures of pain, symptoms, ADL and

sports and recreation. Other clinical outcomes demonstrate continued improvement in pain and function throughout the course of the two-year follow-up."

"These results clearly demonstrate the advantages of juvenile allograft for cell based cartilage tissue repair," said Ed Margerrison, Vice President of Early Intervention for Zimmer. "Zimmer is excited to continue our partnership with surgeons and patients to provide a wide range of options for early intervention of osteoarthritis."

About the Company

Founded in 1927 and headquartered in Warsaw, Indiana, Zimmer designs, develops, manufactures and markets orthopaedic reconstructive, spinal and trauma devices, dental implants, and related surgical products. Zimmer has operations in more than 25 countries around the world and sells products in more than 100 countries. Zimmer's 2013 sales were approximately $4.6 billion. The Company is supported by the efforts of more than 9,000 employees worldwide. More information about Zimmer is available at *www.zimmer.com*.