GlobalData

LONDON, UK (GlobalData), 6 March 2013 - Total **Ankle Replacements** (TARs) are gradually becoming a **mainstream solution to painful and debilitating trauma within the medical devices industry**, states a new report by research and consulting firm GlobalData.

The new report* states that while hip and knee replacements are widely acknowledged in society today, ankle replacement has typically been considered a niche market, due to a much lower incidence of ankle arthritis.

Ankle arthritis can be a result of aging, obesity, sports injuries and trauma. The US is currently leading the way with almost 5,000 TARs performed every year, and European markets are not far behind. However, huge opportunities exist in emerging markets such as China, India and Brazil, where TAR is currently regarded as a niche procedure, but increasing numbers of surgeon training programs on TAR surgical techniques suggest that demand is rising.

Accelerated urbanization and economic growth is leading to growing obese and elderly populations, triggering the TAR patient population in emerging nations to increase at a faster rate than elsewhere. Expanded middle-income groups, increased public awareness of modern medical technology, as well as a trend of active aging, have resulted in an unprecedented demand for orthopedic devices. However, a hefty price tag – averaging approximately $9,500 – is limiting the adoption of TAR prostheses in developing countries, and devices must be made more economical in order to become a major part of the joint replacement market in poorer regions.

After decades of trial and error TAR is becoming a viable alternative to the gold-standard treatment option for end-stage ankle arthritis patients, ankle fusion, which had a risk of complications including malalignment, stress fractures, continued pain, and arthritis developing in adjacent joints. TARs provide late-stage ankle arthritis patients with fast pain relief and range of motion in the ankle, allowing individuals to restart recreational activities more quickly.

However, there is still room for improvement. Linda Tian, GlobalData's analyst covering orthopedic devices, explains: "The promising clinical outcomes associated with the third-generation TAR prostheses are mainly due to updated design philosophies." Extensive bone loss has plagued previous generations of TAR devices, and current products aim to minimize resection of bone to promote implant stability.

Orthopedic surgeons have also called for enhanced biological fixation materials to improve the osseointegration rate and strength of bone-prosthetic bonding. Additional clinical data would enable the study of long-term efficacies of TAR compared with ankle fusion, as the risks of postoperative complications of TAR, such as bone resorption, contact stress and migration, increase with time. However, new designs require less bone resection, leaving stronger bone to secure the prosthesis, and these advances in implant design hold promise for improved outcomes in the future.

GlobalData values the global TAR market across the US, France, Germany, Italy, Spain, the UK, Japan, Brazil, China and India at US$100.9m in 2011, predicting growth at a Compound Annual Growth Rate (CAGR) of 15.3% to reach US$273.2m by 2018. "China, India and Brazil will be experiencing a rapid market growth in the coming years, but their market value in 2018 may still be rather low compared with that generated from the developed countries," concludes Tian.

* MediPoint: Total Ankle Replacement - Global Analysis and Market Forecasts