Total Knee Arthroplasty Using Electrosurgical Cutting/Coagulation Tool

PEAK Surgical has developed a family of disposable surgical cutting and coagulation tools to ensure that orthopedic surgeons have the technology they need for a variety of procedures:

- The PlasmaBlade 4.0, which is designed to be used to cut through all types of soft tissue, including skin, fat and muscle.
- The PlasmaBlade Needle, which has a fine needlepoint tip, is specifically designed for use in ultra-precise surgical procedures.
- The PlasmaBlade EXT is designed for use in surgical procedures requiring an extended tip to reach deep into the body, such as total hip arthroplasty and revision surgery.

The PlasmaBlade provides orthopedic surgeons with a single tissue dissection device that offers several features and benefits:

- It quickly and easily cuts through all types of tissue, including skin, fat and muscle, and dissects in a wet or dry surgical field.
- It provides the same positive wound healing profile of minimal scarring and inflammation as a scalpel but with 60 percent less bleeding.
- It provides 65 percent greater skin incision wound strength at six weeks than traditional electrosurgery.
- It results in 60 percent less scar tissue formation at six weeks than traditional electrosurgery, which is associated with improved cosmesis compared with traditional electrosurgery.
- It eliminates the need to switch between a scalpel and a traditional electrosurgery or cautery device, improving workflow efficiency and reducing the chance for sharps injuries or burns.
- Because of the lower temperature and minimal tissue charring associated with the PlasmaBlade, it avoids the problems of surgical smoke associated with traditional electrosurgery, which can obscure the operating field in the pocket.
- Because it is associated with reduced injury to adjacent tissues, the PlasmaBlade can be used safely near delicate structures such as nerves and blood vessels.
- It may reduce the incidence of surgical site infections as it causes less deposition of eschar because of the cooler temperatures at which it operates, and also leaves behind less necrotic tissue. Thus it reduces two potential harbors for infectious microorganisms, and lessens the burden on the inflammatory system as the body attempts to clear the dead material.

The PlasmaBlade is appropriate for use in a number of orthopedic procedures:

- Knee, Hip, Shoulder Surgery
- Total Joint Arthroplasty
- Complication/Revision Arthroplasty
- Dislocation/Fracture
- Amputation
- Osteonecrosis

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