The contents of the cup of ß-TCP are supplied sterile by gamma irradiation. Sterile rhPDGF-BB is homodimer BB (rhPDGF-BB), which is a protein that has been shown to promote the formation of bone and wound repair. Animal studies have shown PDGF to promote the regeneration of periodontal tissues including bone, cementum, and periodontal ligament (RPL). The contents of the cup of ß-TCP are supplied sterile by gamma irradiation. Sterile rhPDGF-BB is homodimer BB (rhPDGF-BB), which is a protein that has been shown to promote the formation of bone and wound repair. Animal studies have shown PDGF to promote the regeneration of periodontal tissues including bone, cementum, and periodontal ligament (RPL). The contents of the cup of ß-TCP are supplied sterile by gamma irradiation. Sterile rhPDGF-BB is homodimer BB (rhPDGF-BB), which is a protein that has been shown to promote the formation of bone and wound repair. 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**Long-Term Follow-up**

The clinical evaluation of REGRANEX® Gel included a treatment regimen of applying the gel daily to skin ulcers. AUC for CAL Gain was calculated to estimate the amount of GEM 21S® needed to fill the defect. For best results, GEM 21S® must be placed directly on the defect at the level of the surrounding healthy bone. Overfilling should be avoided. The clinician prepares the GEM 21S® graft by fully saturating the ß-TCP particles with the rhPDGF-BB solution and letting the product sit for approximately ten (10) minutes. Proper aseptic technique must be employed in preparing and applying GEM 21S®.

The GEM 21S® kit must be refrigerated at 2°-8º C (36°-46º F). Do not freeze. The individual outer container is open, broken or otherwise damaged, the product must be assumed to be non-sterile and non-viable. Solutions and suspensions must be employed in preparing and applying GEM 21S®.

**STORAGE CONDITIONS:**

The GEM 21S® kit must be refrigerated at 2°-8º C (36°-46º F). Do not freeze. The individual outer container is open, broken or otherwise damaged, the product must be assumed to be non-sterile and non-viable. Solutions and suspensions must be employed in preparing and applying GEM 21S®.

**Safety**

During the initial 6 month observation period, there were 10 patients (7 Group I, 6 Group II, 5 Group III) with adverse events reported as related to the device. None of these were serious. They were all classified as surgical site reactions. There were no significant differences in the incidence of adverse events across the three treatment groups.

Safety studies in GEM 21S® were shown, by both clinical and radiographic measures, to be effective in treating moderate to severely periodontally involved defects within six months of regrowth. The therapeutic effects of GEM 21S® compare favorably with, or exceed current standards of care, established autogenous bone grafting. Pre-requisites for all regenerative procedures include prevention of wound contamination, adequate exposure to the operating field be performed in a sterile manner prior to adding the PDGF from the syringe. Care must also be taken to minimize crushing the ß-TCP particles. Appropriate sterile transfer techniques must be used to prevent contamination of the contents of the cup and syringe.

Following thorough debridement of the osseous defect, the clinician, based on his or her experience, estimates the amount of GEM 21S® needed to fill the defect. For best results, GEM 21S® must be placed directly on the defect at the level of the surrounding healthy bone. Overfilling should be avoided. The clinician prepares the GEM 21S® graft by fully saturating the ß-TCP particles with the rhPDGF-BB solution and letting the product sit for approximately ten (10) minutes. Proper aseptic technique must be employed in preparing and applying GEM 21S®.

The GEM 21S® kit and its components must not be re-sterilized by any method or reused. Inspect each individual sterile component of the kit for structural integrity prior to use. If the seal of any inner or outer container is open, broken or otherwise damaged, the product must be assumed to be non-sterile and consequently, must not be used. Any opened unused material must be discarded and components of this system should not be used separately.

**BENCH AND CLINICAL DATA REGARDING GEM 21S® DO NOT INDICATE AN INCREASED CANCER INCIDENCE OR RISK:**

**Comparison of Emdogain® and GEM 21S® Preclinical Clinical Trial Results**

The table below compares the results obtained in the GEM 21S® pivotal clinical trial to two safety and efficacy studies submitted as part of the Emdogain® PMA application. Improvements in clinical and radiographic measures were shown, by both clinical and radiographic measures, to be effective in treating moderate to severely periodontally involved defects within six months of regrowth. The therapeutic effects of GEM 21S® compare favorably with, or exceed current standards of care, established autogenous bone grafting.

**IN0005**

The table below compares the results obtained in the GEM 21S® pivotal clinical trial to two safety and efficacy studies submitted as part of the Emdogain® PMA application. Improvements in clinical and radiographic measures were shown, by both clinical and radiographic measures, to be effective in treating moderate to severely periodontally involved defects within six months of regrowth. The therapeutic effects of GEM 21S® compare favorably with, or exceed current standards of care, established autogenous bone grafting.

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