

**24-Hour Summary of the Orthopaedic and Rehabilitation Devices Panel Meeting**  
**Thursday, May 12, 2011**

The Orthopaedic and Rehabilitation Devices Panel of the Medical Devices Advisory Committee to the Food and Drug Administration met on Thursday, May 12, 2011 to discuss, make recommendations, and vote on information related to the premarket approval application (PMA) for the Augment Bone Graft, sponsored by Biomimetic Therapeutics, Inc. The intended use of the device is as an alternative to autograft in hindfoot and ankle fusion procedures that require supplemental graft material, including tibiotalar, tibiocalcaneal, talonavicular, and calcaneocuboid fusions.

With regard to Discussion Question 1, the Panel's consensus was that the product does serve as an alternative to autograft; however, there are some concerns about the indications for this product's usage. There was some unanimity among the Panel members that pooling the patient population is necessary, but the Panel felt that there could be issues with confounding of the results due to the variables present.

With regard to Discussion Question 2a, the Panel's consensus was that there was a predefined secondary endpoint of fusion. For question 2b, the Panel felt that it is somewhat immaterial regarding the secondary composite clinical endpoint that included pain and function of the treated joint. For question 2c, the Panel generally had no major issues with the method of analysis, with CT serving as a radiographic method.

With regard to Discussion Question 3, the Panel was in general agreement that the statistical analysis was generally insufficient. The Panel has concerns about power, intent to treat analyses, and general design flaws.

With regard to Discussion Question 4, the Panel generally believed that the means by which adverse events were reported in the study, and the definition of therapeutic failures, were reasonable and adequate.

With regard to Discussion Question 5, the Panel's consensus was that with regard to both carcinogenicity and tumor promotion, further study is needed, particularly on the clinical side, and particularly with respect to tumor promotion. The Panel felt that such studies would be appropriate postmarket.

With regard to Discussion Question 6, the Panel generally believed that there is a need for additional preclinical and clinical testing for this product with regard to toxicology and teratogenic potential. The Panel felt that particular attention should be paid to pharmacokinetic analysis, antibody production, longevity and dose-response curves.

With regard to Discussion Question 7, the Panel's consensus was that additional preclinical and clinical testing is needed to assess immune response, with particular attention to neutralizing antibody formation and PDGF-BB signaling.

With regard to Discussion Question 8, the Panel's consensus was that if the product were approved, a post-approval study would be needed. The Panel would like to see increased attention paid to surveillance of adverse events, and increased enrollment to give such a study sufficient power. The Panel also recommended that the Agency consider creating a registry for the product.

For Voting Question 1, regarding the safety of Augment for use as an alternative to autograft in hindfoot and ankle fusion procedures that require supplemental graft material, including tibiotalar, tibiocalcaneal, talonavicular, and calcaneocuboid fusions, the Panel voted 12 Yes and 6 No. There were no abstentions.

For Voting Question 2, regarding the effectiveness of Augment for use as an alternative to autograft in hindfoot and ankle fusion procedures that require supplemental graft material, including tibiotalar, tibiocalcaneal, talonavicular, and calcaneocuboid fusions, the Panel voted 10 Yes and 8 No. There were no abstentions.

For Voting Question 3, which asked whether the benefits of Augment for use as an alternative to autograft in hindfoot and ankle fusion procedures that require supplemental graft material, including tibiotalar, tibiocalcaneal, talonavicular, and calcaneocuboid fusions, outweigh the risks of Augment for use as an alternative to autograft in hindfoot and ankle fusion procedures that require supplemental graft material, including tibiotalar, tibiocalcaneal, talonavicular, and calcaneocuboid fusions, for purposes of approval, the Panel voted 10 Yes and 8 No. There were no abstentions.

The meeting adjourned at 6:10 PM.

Contact: Margaret McCabe-Janicki, Designated Federal Officer at 301-796-7029 or [margaret.janicki@fda.hhs.gov](mailto:margaret.janicki@fda.hhs.gov).

Transcripts may be purchased from: (written requests only)

Free State Reporting, Inc.  
1378 Cape St. Clair Road Annapolis, MD 21409  
410 - 974 - 0947 or 800 - 231 - 8973 Ext. 103  
410 - 974 - 0297 fax

Or

Food and Drug Administration  
Freedom of Information Staff (FOI)  
5600 Fishers Lane, HFI - 35  
Rockville, MD 20851  
(301) 827 - 6500 (voice), (301) 443 - 1726 (fax)