Biplanar Chevron

James K. DeOrio, M.D. Duke University

Biplanar chevron osteotomy is the name given to a procedure which employs the chevron procedure for bunion correction. Then, a wedge of bone is removed from the medial side in order to rotate the head medially to reduce the distal metatarsal articular angle (DMAA) in order to get the toe straight. Finally, the head is shifted laterally and there fixed with a screw or pin. An Akin may be added as well. There are several techniques for doing this procedure. They include removing bone from the top and bottom of the medial chevron (1), removing bone from only the top of the chevron (2, 3), making the bottom of the limb of the chevron parallel to the bottom of the foot and cutting the wedge from the dorsal side (4), and doing similarly but cutting the wedge from the medial side (5). There are also commercial cutting guides which can be used to make these cuts. Finally, if there is concern about shortening the metatarsal too much, the wedge can actually be reversed and placed on the top of the chevron in which case you preserve length and get twice as much correction for a smaller wedge.

References:

1. Chou LB, Mann RA, Casillas MM. Biplanar chevron osteotomy. Foot Ankle Int. 1998 Sep;19(9):579-84
2. DeOrio J. Technique tip: dorsal wedge resection (uniplanar) in the chevron osteotomy for high distal metatarsal articular angle bunions. Foot Ankle Int. 2007 May;28(5):642-4