Under a regional block and with a tourniquet applied a midline skin incision is made based over the first metatarsal phalangeal joint. The dorsal cutaneous nerve is identified and preserved. The capsule is incised in line with the skin incision and any redundant capsule can be excised at the time of soft tissue balancing. The vascular pedicle at the metadiaphysis is identified and preserved.
The dorsal capsule and soft tissues are released until the fibular sesamoid can be seen. An incision is made on the lateral aspect of the fibular sesamoid to release all the soft tissue attachments including the adductor hallucis tendon. The extensor hallucis brevis is retained. The joint should now be freely mobile and correctable to a congruent position. Remove the medial osteophyte flush with metatarsal shaft, but angle the saw blade to avoid compromising the sesamoid vault.

With a marking pen outline the osteotomy. #1 Just proximal to the head begin an osteotomy that runs along the midline, bisecting the shaft, and terminates at the proximal flair. #2 Make a second cut dorsal. Position blade at the first cut, tilt away from the head and cut across the bone parallel to the metatarsal head. #3 Make a third and final cut plantar to the initial osteotomy. Position the blade at the termination point, angle in and cut across the bone roughly parallel to the base of the first metatarsal.
Rotate and shift the metatarsal head laterally to the amount of correction required and clamp it into position. Evaluate the correction under fluoroscopy. Adding a rotational element to the correction versus a pure lateral shift assures adequate cortical crossover and avoids linear overlap that can lead to troughing.

In the long axis of the corrected bone place 1.1mm (0.45”) K-wire in the proximal 1/3 and a second wire in the distal 1/3 of the osteotomy making sure to engage adequate cortex top and bottom. Using a 2.1mm cannulated bit drill over the K-wire through both cortices and measure screw length using the wire or depth gauge.

It is necessary to countersink the holes, but care should be taken to avoid over penetration of the countersink bit below the level of the outer cortex. The countersink should stop just proud of the outer cortical rim to achieve maximum compression with the screws.
Once all screws are secured and tightened in the final position trim the medial side of the metatarsal flush with the shaft. These cortical pieces can then be turned and fit into the dorsal and plantar spaces created by the osteotomy as autologous bone blocks further reinforcing the construct.

The sesamoid metatarsal head articulation is addressed. It is important to release any lateral soft tissue impediment to proper sesamoid tracking. Once this is achieved and the metatarsal phalangeal articulation is congruent the capsule is plicated in order to help maintain the sesamoid sling alignment. At this stage any malalignment secondary to interphalangeal can be addressed with an Aiken or maestro osteotomy (not described here).

The wound is closed in layers and a soft dressing is applied. This must hold the metatarsal phalangeal in a congruent position to allow the soft tissues to heal. The patient is encouraged to keep off the foot for forty eight hours and then start heel weight bearing as soon as comfortable. At one week forefoot loading can commence. The scarf is mechanically stable and will allow early weight bearing.

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