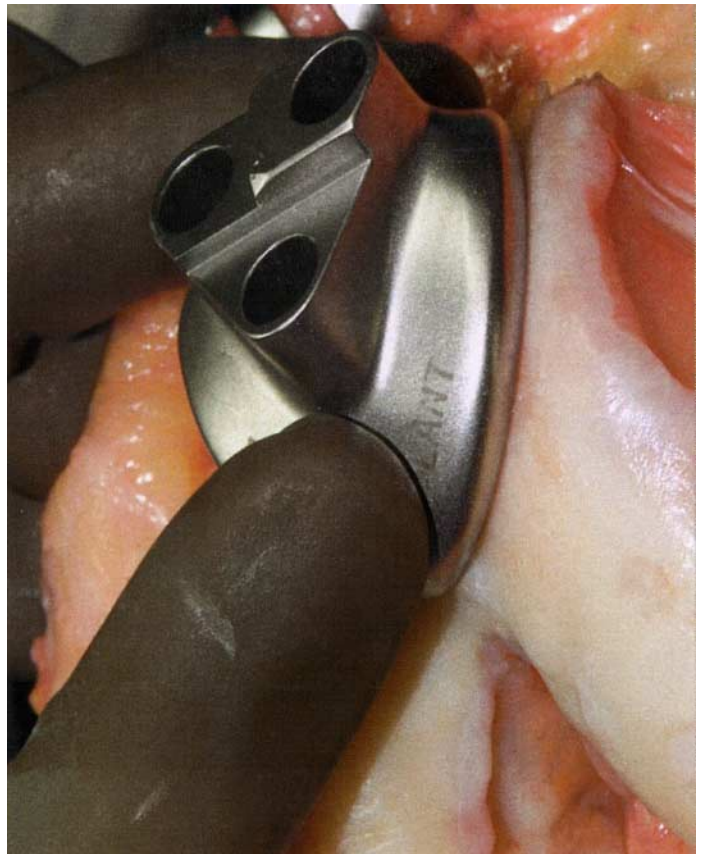


Patello-Femoral Replacement

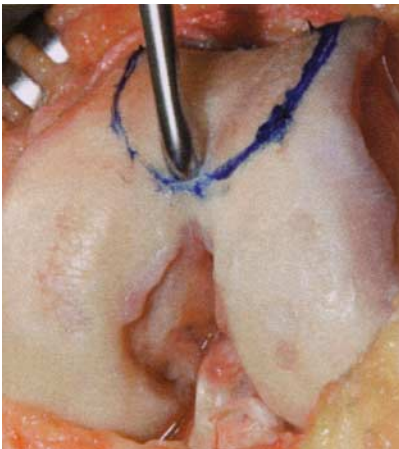
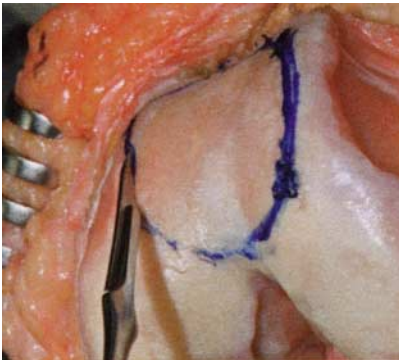


Surgical Technique

Surgical Technique

KineMatch™ **Patello-Femoral Replacement***

Written in conjunction with Domenick J. Sisto, MD, Sherman Oaks, CA

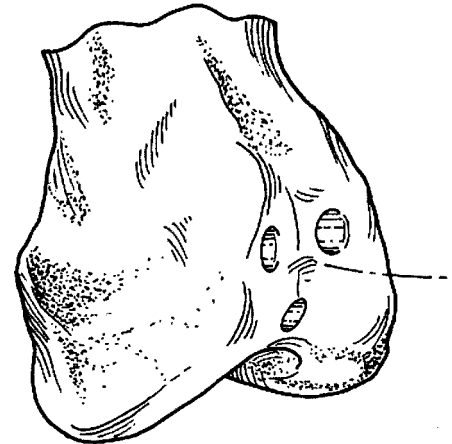


Preoperative Planning

- The KineMatch Patello-Femoral Replacement (PFR) is designed to articulate with the Kinamed Gem™ Dome Patella Implants (all-poly, tri-peg). The PFR device can be designed to articulate with a patella implant of the surgeon's choice, but only on a custom implant basis.
- The patient undergoes a CT-scan per the specific scan instruction provided by Kinamed. The surgeon then receives a CT-bone model of the patient anatomy prior to surgery. The surgeon can use the model to determine the need for osteophyte removal at the time of surgery. If osteophyte removal is planned, this must be communicated to Kinamed by performing the planned osteophyte removal on the CT-bone model, and returning it to Kinamed prior to implant design.

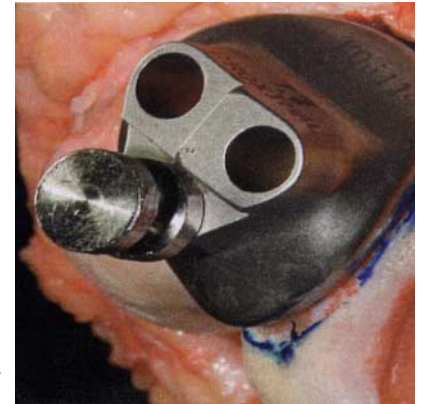
Femur Preparation

- A small, standard mid-line incision is made down to the patello-femoral trochlea and the patella is everted.
- The cartilage is removed down to subchondral bone in the area where the implant will sit. Since the CT data from which the implant was created models bone and not cartilage, proper fit is achieved by excision of overlying cartilage.
- The custom drill guide is used to assess the approximate fit of the implant onto the distal femur. The margin of the custom drill guide is marked on the bone in methylene blue, (fig. 1).
- A scalpel is used to define the margin of the cartilage removal, (fig. 2).
- A burr or curette is used to completely remove the cartilage within this outlined margin, exposing the sub- chondral bone, (fig. 3).
- The custom drill guide is now used to determine the exact fit of the custom PFR implant by moving the drill guide on the distal femur until it reaches a natural fit, as with the CT-bone model.
- With the custom drill guide correctly positioned on the bone, a hole is drilled through one guide hole with the 8 mm stop-drill, marked part no. 22-800-2001, (fig. 4).



*U.S. and Foreign Patents Pending

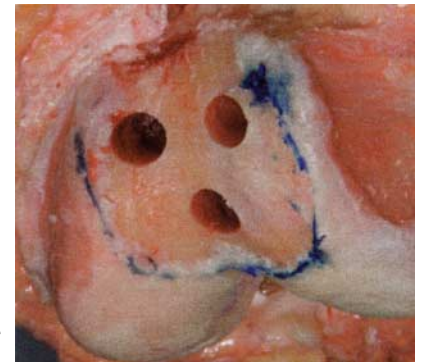
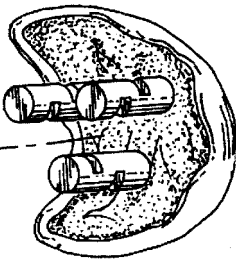
- The drill is removed from the bone and is replaced with an alignment pin, marked part no. 22-800-2002. The alignment pin stabilizes the position of the drill guide as the next two holes are prepared, (fig. 5). The second hole is prepared and a second alignment pin is inserted. Finally, a third hole is drilled.
- The alignment pins and drill guide are removed from the femur.
- The drill holes are thoroughly irrigated and suction is applied to remove bone particles and fluid, (fig. 6). The bony bed of the distal femur is prepared to receive bone cement. The PFR implant is trial-fitted by placing the implant pegs into the drilled holes and finding the best fit of the implant on the femoral trochlea.



5

Patella Preparation

- Set the height of the Gem™ patella resection guide to correspond to the desired patella thickness after resection (a minimum residual thickness of 15 mm is recommended),
 - Grasp the patella in the jaws of the Gem™ resection guide with the anterior surface of the patella resting against the foot.
 - Resect the patella with the blade resting flat on the jaws of the Gem™ patella clamp.
 - Prepare the site for the Gem™ tri-peg patellar component using the tri-peg centering guide. Prepare the three peg holes with the tri-peg stop drill, marked pan no. 22-800-3003,
 - a Determine the appropriate patellar component size using the Gem™ patella trials (see back page for sizing). The joint may be tested through a range of motion with the PFR implant and patella trial in place.



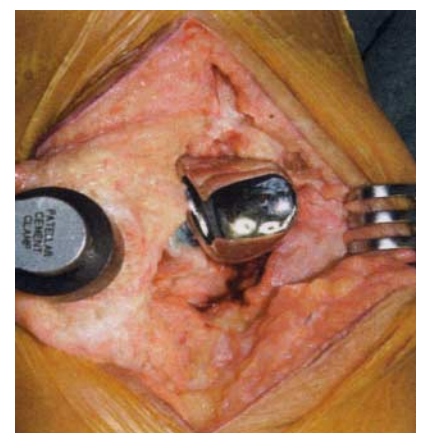
6



7

Cementation and Closure

- Bone cement is prepared per the manufacturers instructions. Cement is injected into the drilled holes in the distal femur until the holes are completely filled with cement. The posterior surface of the implant is coated with cement and the implant is placed onto the femur into its best-fit position. Excess cement around the implant margin is carefully removed. The PFR implant is held in place with the impactor until the cement has cured, (fig. 7).
- The appropriately sized patella implant is cemented in place and held in place by the patellar clamp until the cement cures, (fig. 8). Excess cement is carefully removed.
- Once the cement has fully cured, the patella is reduced to its anatomic position and the implants are tested through a range of motion. Drains are placed in the joint prior to closure. (continued on back page)



8

Postoperative Care

- No immobilization is required and the patient can be made immediate weight-bearing.
- An accelerated re-habilitation is possible and is encouraged due to the reduced incision size and absence of femoral bone resection as in total knee arthroplasty.

Part Number Information

KineMatch™ Custom-Fit PFR Implants

PFR Implant - **Left**

PFR Implant - **Right**

Catalog No.

22-100-1001

22-100-1002

Gem™ Patella Implants, Dome, Tri-Peg

	Diameter (mm)	Thickness (mm)	Catalog No.
Patella Implant Size 1	30	8	20-420-0101
Patella Implant Size 2	33	9	20-420-0102
Patella Implant Size 3	36	10	20-420-0103
Patella Implant Size 4	39	11	20-420-0104

KineMatch™ PFR Instruments

Custom PFR Drill Guide - **Left**

Custom PFR Drill Guide - **Right**

KineMatch™ PFR Instrument Set

Catalog No.

22-800-2004

22-800-2005

22-800-1000

Instrument set contains: 8mm PFR Stop Drill, Drill Guide Alignment Pin (2), PFR Impactor, Patella Resection Guide, Patella Drill Guide, 6mm Patella Stop Drill, Patella Clamp, Caliper, Patella Trials (4), Autoclave Case