KINAMED®
INCORPORATED

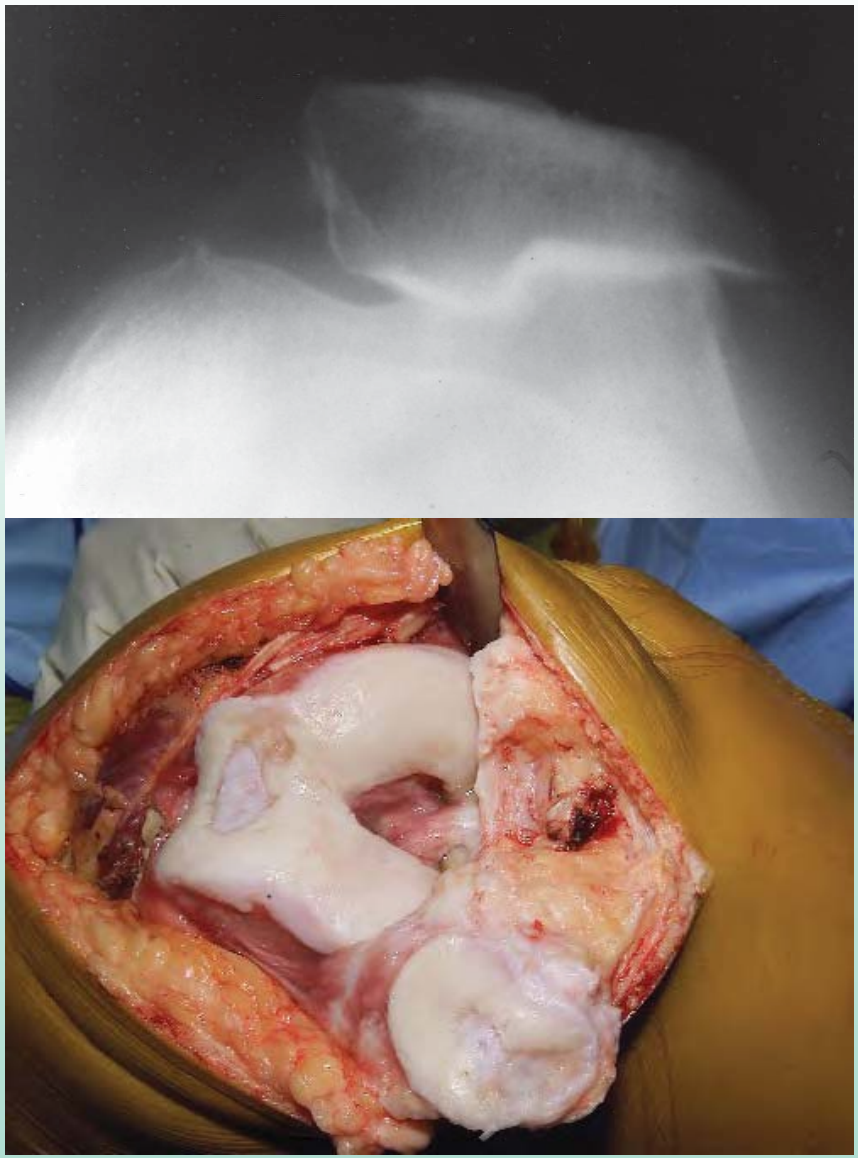
KineMatch™ Custom-Fit Patello-Femoral Replacement

Indications

Isolated, end-stage patello-femoral disease

Typical Patient:

- **Younger – under 55**
- **Predominantly female (2:1)**



Kinamed Custom PFR

- Customization provides a perfect fit without bone resection
- No bone cuts, IM rods or sculpting is required with KineMatch
- Four customs cases below show variable anatomy of the trochlea

Four left custom femoral components shown on their CT models

Kinamed Custom PFR

Lateral aspect

Medial aspect

Kinamed Custom PFR

A brief introduction to the KineMatch System

- Custom device based on CT data acquired per Kinamed CT scan protocol
- Provided:
  - **CT bone model**
  - **Custom Femoral Implant**
  - **Custom Drill Guide**
  - **Standard 3-peg dome patella**
  - **Loan of a simple instrument set**

Kinamed Custom PFR

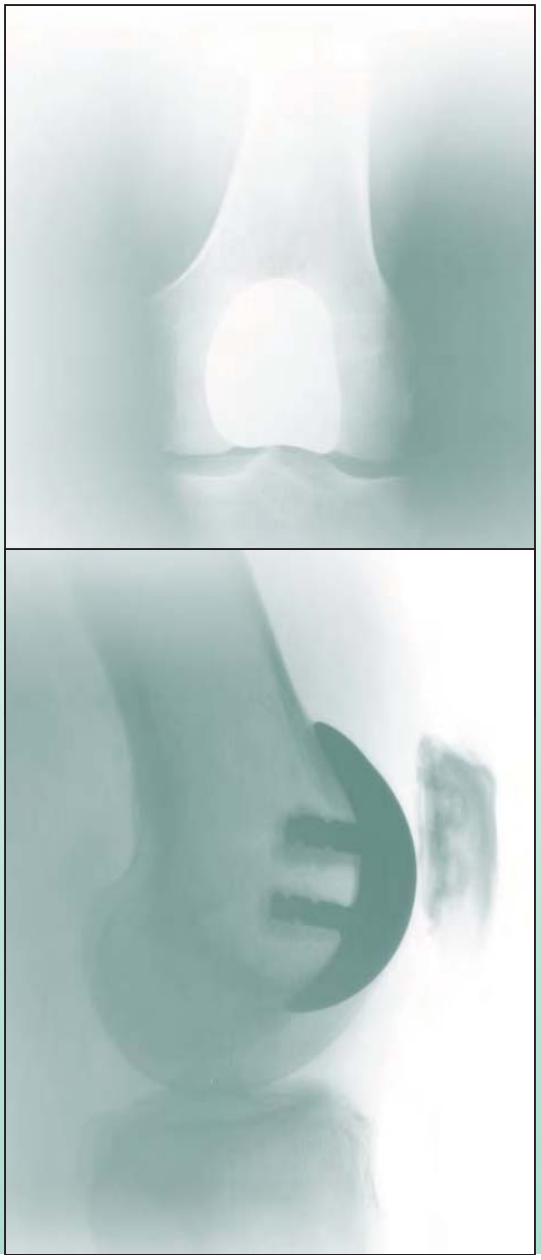
A brief introduction to the KineMatch System

- Femoral implant has fixation pegs on the backside and is fixed with bone cement (see Surgical Technique Guide).
- Patella implant is an “all poly”, symmetrical, 3-peg design that is also cemented.

Custom PFR versus TKR

Custom PFR advantages

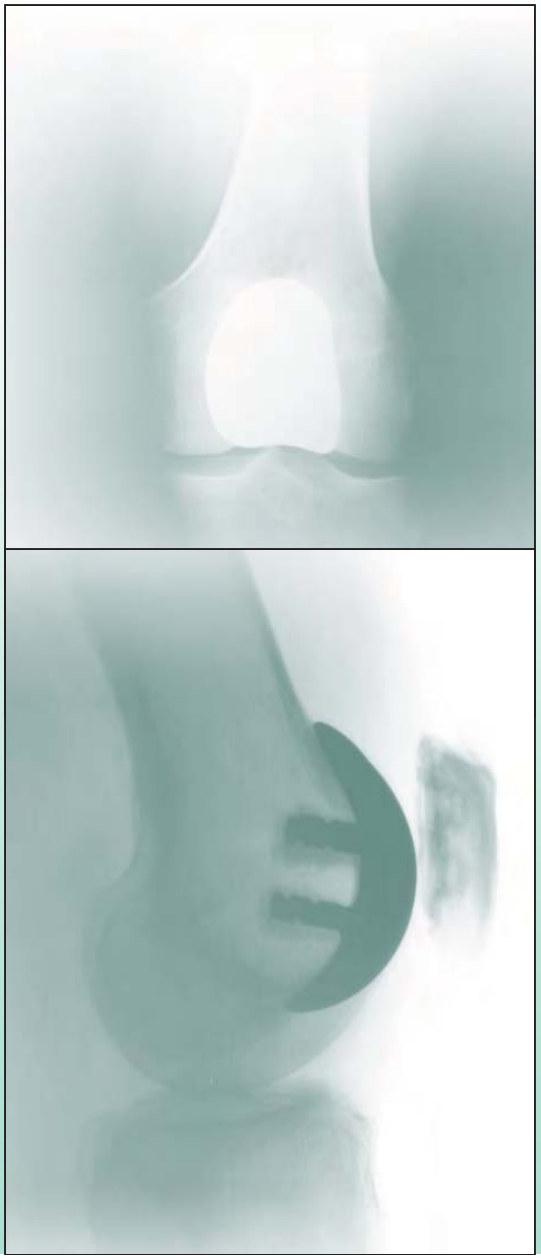
- **Typically young, active patients – too young for TKR**
- **Patient functions better on their natural, healthy femoro-tibial articulations.**
- **PFR is a much less invasive than TKR with 1/3 the morbidity, rehab and recovery time.**
- **PFR with custom device is a quicker surgical procedure than TKR.**
- **Look at the X-rays to the left – does it make sense to saw off all the bone required for TKR when the natural femoro-tibial articulations are healthy!?**



Custom PFR versus TKR

Custom PFR advantages

- Eliminates IM invasion with rod
- Eliminates embolization of fat and marrow caused by rods
- Custom PFR is a bone sparing, temporizing procedure even if the disease progresses to other joint compartments.



Custom PFR versus Standard PFR

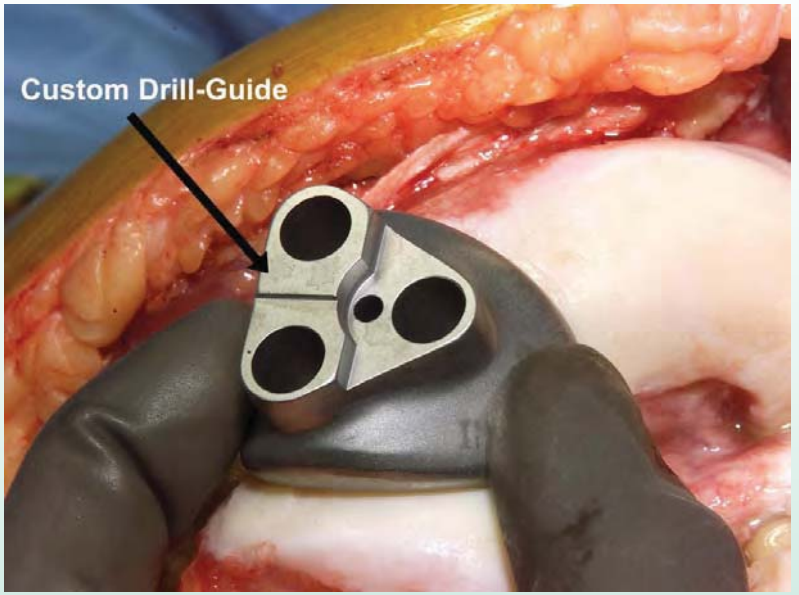
Custom PFR Advantages

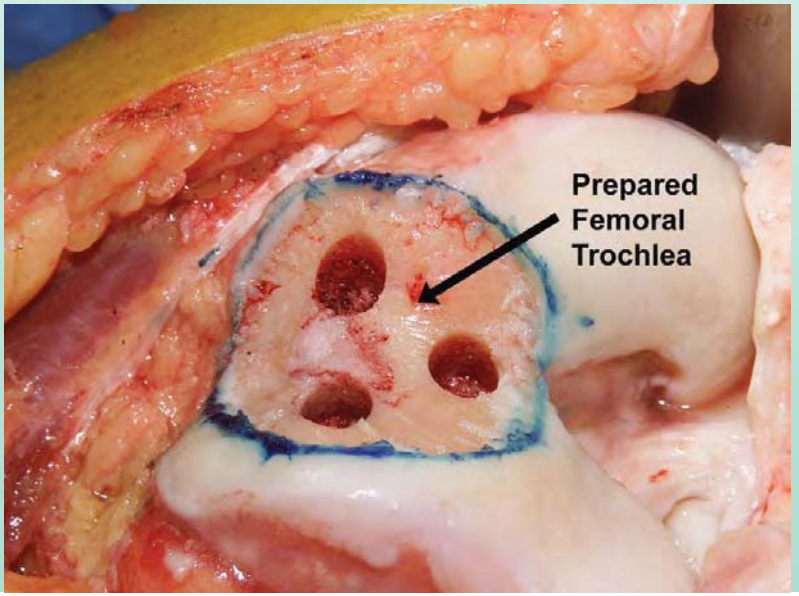
- Custom eliminates bone resection and bone sculpting
- Customization provides a precise fit in the trochlear groove to prevent problems of:
  - patellar catching
  - soft tissue impingement
  - poor patellar tracking and stability.

Custom PFR versus Standard PFR

Custom PFR Advantages

- Customization simplifies the surgical procedure.
- Custom drill guide provides precise CT-based fit for creation of peg-holes.

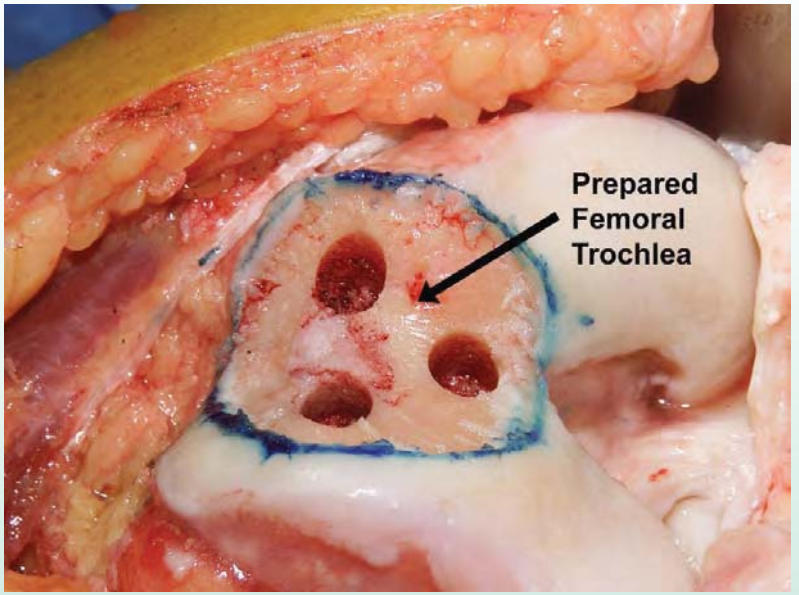


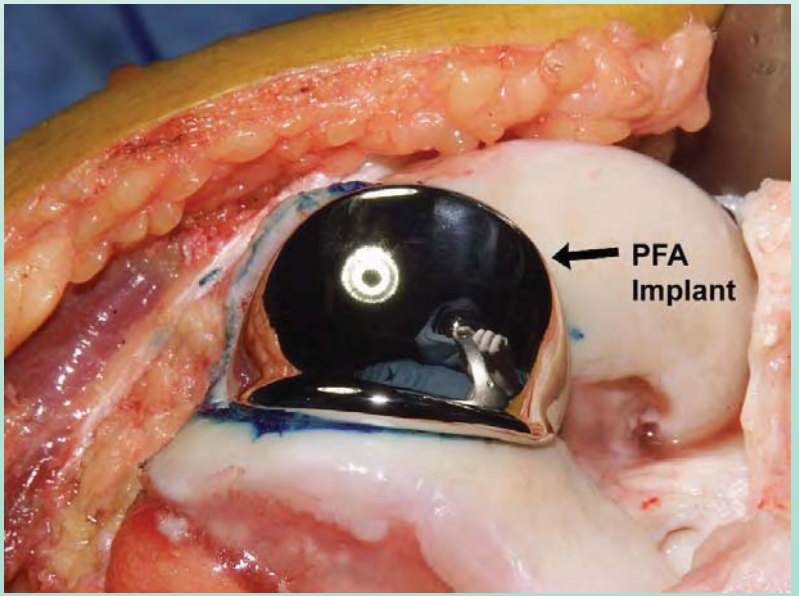


Custom PFR versus Standard PFR

Custom PFR Advantages

- Cartilage is removed with a curette.
- Custom femoral component is fixed with bone cement.
- Patella is resurfaced with an all-poly domed implant





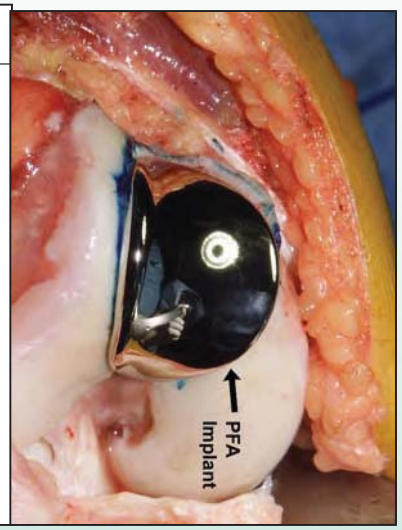
KineMatch PFR Clinical Data

J. Bone Joint Surg. Am 88:1475-1480, 2006

CUSTOM PATELLOFEMORAL ARTHROPLASTY OF THE KNEE

BY DOMENICK J. SISTO, MD, AND VINEET K. SARIN, PHD

Investigation performed at Los Angeles Orthopaedic Institute, Sherman Oaks, California



Best clinical results published on any PFR device!

- **25 PFR in 22 patients**
- **16 female, 6 male**
- **45 years (23 - 51 years)**
- **Mean follow-up 73 months**

Results:

- **100% Survivorship**
- **18 “Excellent” & 7 “Good”**
- **No revision, loosening, subsequent surgery**

Patello-Femoral Replacement
Clinical Results

Author	#	FU (years)	Implant	Result
Ackroyd 2005	306	2 - 5	Stryker	87% not revised and complication-free
Arciero 1988	25	3 - 9	Richards	72% good or excellent, 12% revised
Argenson 1995	66	2 - 10	Medinov	85% not revised
Argenson 2005	66	12 - 20	DePuy	56% not revised
Blazina 1979	57	1 – 3.5	Richards	78% “much improved”
Cartier 1990	72	2 - 12	Richards	85% good or excellent, 8% complications
De Winter 2001	26	1 - 20	Richards	61% good or excellent, 19% reoperations
Kooijman 2003	45	15 - 21	Richards	62% not revised
Krajca 1996	16	2 - 18	Richards	88% good or excellent, 19% reoperations
Lubinus 1979	14	0.5 - 2	Link	“All improved”
Merchant 2004	15	2.2 – 5.5	DePuy	93% good or excellent on ADL scale
Smith 2002	45	0.5 – 7.5	Link	64% good or excellent, 19% revised
Tauro 2001	62	5 - 10	Link	45% “satisfactory”, 28% revised
Sisto 2006	**25**	**2.7 – 9.9**	**Kinamed**	**100% good or excellent, No complications**