CLAIMS

What is claimed is:

1. A tibial implant for treating a knee joint of a patient, the tibial implant comprising:

a superior surface generally opposite an inferior surface, the superior surface having a first ~~curvature~~ curve and having an inferior-most point;

an anterior portion generally opposite a posterior portion; and

a medial portion generally opposite a lateral portion,

wherein the first ~~curvature~~ curve is based, at least in part, on patient-specific information regarding the knee joint of the patient, and

wherein a height difference in the superior direction between the inferior-most point of the superior surface and a superior-most point of the superior surface in the anterior portion is between about 5 mm and about 10 mm.

2. A tibial implant for treating a knee joint of a patient, the tibial implant comprising:

a superior surface generally opposite an inferior surface, the superior surface having a first height relative to the inferior surface and having an inferior-most point;

an anterior portion generally opposite a posterior portion; and

a medial portion generally opposite a lateral portion,

wherein the first height is based, at least in part, on patient-specific information regarding the knee joint of the patient, and

wherein a height difference in the superior direction between the inferior-most point of the superior surface and a superior-most point of the superior surface in the anterior portion is between about 5 mm and about 10 mm.

3. A system for treating a knee joint of a patient, the system comprising:

a femoral implant having a joint-facing surface that includes a first ~~curvature~~ curve that is based, at least in part, on patient-specific information regarding the knee joint of the patient; and

a tibial implant, comprising:

a superior surface generally opposite an inferior surface, the superior surface having a first ~~curvature~~ curve and having an inferior-most point;

an anterior portion generally opposite a posterior portion; and

a medial portion generally opposite a lateral portion,

wherein the first ~~curvature~~curve of the superior surface is based, at least in part, on the first ~~curvature~~curve of the joint-facing surface of the femoral implant, and

wherein a height difference in the superior direction between the inferior-most point of the superior surface and a superior-most point of the superior surface in the anterior portion is between about 5 mm and about 10 mm.

4. A method of making the tibial implant of claim 1, the tibial implant of claim 2, or the system of claim 3 for treating a knee joint of a patient, the method comprising:

obtaining image data and/or kinematic data regarding the knee joint of the patient;

determining patient-specific information regarding the knee joint of the patient based on the image data and/or kinematic data; and

specifying one or more parameters of the tibial implant based, at least in part, on the patient-specific information, wherein specifying one or more parameters of the tibial implant comprises specifying a height difference in the superior direction between the inferior-most point of the superior surface and a superior-most point of the superior surface in the anterior portion as between about 5mm and about 10mm.

5. The tibial implant of claim 2, wherein the first height comprises a height selected from the group consisting of the height of the inferior-most point of the superior surface, the height of the superior-most point of the superior surface in the anterior portion, and the height of a superior-most point of the superior surface in the posterior portion.

6. The tibial implant of claim 1, the tibial implant of claim 2, or the system of claim 3, wherein the patient-specific information comprises information selected from the group consisting of a distal femoral sagittal ~~curvature~~curve, a posterior femoral sagittal ~~curvature~~curve, a femoral coronal ~~curvature~~curve, a PCL insertion location, a

PCL origin location, an ACL insertion location, an ACL origin location, a tibial slope, a femoral slope, and combinations thereof.

7. The tibial implant of claim 1, the tibial implant of claim 2, or the system of claim 3, wherein a height difference in the superior direction between the inferior-most point of the superior surface and a superior-most point of the superior surface in the posterior portion is between about 4 mm and about 8 mm.

8. The tibial implant of claim 1, the tibial implant of claim 2, or the system of claim 3, wherein the tibial implant comprises:

a tibial tray with a perimeter sized and shaped to substantially match a perimeter of a cut tibial plateau at a predetermined depth.

9. The tibial implant of claim 1, the tibial implant of claim 2, or the system of claim 3, wherein the tibial implant comprises:

a tibial tray configured for placement on a cut tibial plateau and having a superior surface;

a medial insert configured to engage the superior surface of the tibial tray in the medial portion; and

a lateral insert configured to engage the superior surface of the tibial tray in the lateral portion,

wherein a height of the medial insert differs from a height of the lateral insert.

10. The tibial implant of claim 1, the tibial implant of claim 2, or the system of claim 3, wherein the tibial implant comprises:

a tibial tray configured for placement on a cut tibial plateau and having a superior surface;

one or more inserts configured to engage the superior surface of the tibial tray and having a perimeter,

wherein at least a portion of the perimeter of the one or more inserts extends beyond the perimeter of the cut tibial plateau in at least one direction selected from the group of directions consisting of anterior, posterior, medial, and lateral.