HANDS ON DEMONSTRATION & SURGICAL SKILLS MODELS

JOINT REPLACEMENT
Hip and Knee

Orthopedic models and skills development systems for demonstration and training
**SOLID FOAM**
Solid foam models are made of rigid foam throughout. This is an economical material for general anatomy.
Most commonly used for:
- External fixation
- Limited total joint replacement
- Internal fixation

**FOAM CORTICAL SHELL**
Foam cortical shell models are made of a rigid foam shell with inner cancellous material. These models cut and drill easier than the plastic cortical shell models.
Most commonly used for:
- Total joint replacement
- Internal fixation
- Fracture and pathology models
- General orthopaedics

**PLASTIC CORTICAL SHELL**
Plastic cortical shell models are made of a rigid plastic shell with inner cancellous material. Plastic cortical shell models are very durable.
Most commonly used for:
- Intramedullary rodding
- Internal fixation
- Product display
- Surgical navigation
- Facet or SI injection
- Discotomy

**SOLID WHITE PLASTIC**
Solid plastic models are made of a rigid plastic. Some models include the intramedullary canal. They are very durable.
Most commonly used for:
- Patient education
- Product display

**SOLID CLEAR**
Solid clear models are made of a solid clear plastic. They can be made with or without the intramedullary canal. They are very durable and we can also install customer provided implants.
Most commonly used for:
- Product Display

**COMPOSITE BONE**
This Sawbones model has physical strength properties similar to real bone.
Most commonly used for:
- When actual strength properties of real bone are required.
- For testing, comparing or designing implants and other devices.

**RADIOPAQUE**
Radiopaque models are designed for use with X-ray or fluoroscopy and contain a visible high contrast cortical shell.
Most commonly used for:
- External fixation
- Total joint replacement
- Internal fixation
- Intramedullary rodding
- Cortical screw application

**TRANSPARENT PLASTIC CORTICAL SHELL**
Transparent plastic cortical shell models are made with a clear plastic shell and inner cancellous material.
Most commonly used for:
- Intramedullary rodding where visualization of the locking screws is critical.
We can create display models for trade shows to help you show off your products and get noticed.

Customized anatomy and fractures with or without fragments can be manufactured from your CT-data or CAD files.

Soft tissue can be added to our bones.

Workshop models can be converted into the radiopaque option.

We can make our bones softer or harder by modifying their density.

Cases for transport and storage can be provided for most models, instruments and implants.

HERE IS AN IDEA OF WHAT WE CAN DO
NORMAN ANATOMY

Small

#1288 — Hemi pelvis, left (pediatric). 35 mm acetabulum. Lines of fusion of ilium, ischium and pubis defined. Solid foam.

Medium

#1291 — Hemi pelvis, female left. 48 mm acetabulum. Solid foam.

#1291-1 — Hemi pelvis, female left. 48 mm acetabulum. Solid white plastic.

#1292 — Hemi pelvis, female right. 48 mm acetabulum. Solid foam.

★#1295-35 — Hemi pelvis, left. With anatomical attributes collected from average Asian population. 48 mm acetabulum. Foam cortical shell.

Large

#1294 — Hemi pelvis, left. 57 mm acetabulum. Solid foam.

#1295 — Hemi pelvis, left. 57 mm acetabulum. Foam cortical shell.

#1295-1 — Hemi pelvis, left. 57 mm acetabulum. Solid white plastic.

#1296 — Hemi pelvis, right. 57 mm acetabulum. Solid foam.

#1297 — Hemi pelvis, right. 57 mm acetabulum. Foam cortical shell with cancellous.

★ = New
NORMAL ANATOMY WITH VISE ATTACHMENT

Medium

#1304 — Hemi pelvis, left. With vise attachment. 48 mm acetabulum. Solid foam.

#1305 — Hemi pelvis, left. With vise attachment. 54 mm acetabulum. Solid foam.

#1305-4 — Hemi pelvis, left. With vise attachment. 54 mm acetabulum. Solid white plastic.

#1307 — Hemi pelvis, left. With vise attachment on superior iliac crest. 54 mm acetabulum. Solid foam.

Large

#1296-2 — Hemi pelvis, right. With vise attachment. 57 mm acetabulum. Foam cortical shell.

#1305-7 — Hemi pelvis, left. 54 mm acetabulum. With reinforced acetabulum (thicker inferior area) for press fit implant. With wise attachment. Solid foam.

#1306 — Hemi pelvis, left. With vise attachment. 56 mm acetabulum. Solid foam.

#1306-4 — Hemi pelvis, left. With vise attachment. 64 mm acetabulum. Solid foam.
PATHOLOGY

Medium

#1291-3 — Hemi pelvis, left female. With 45 mm dysplastic acetabulum. Solid foam.

#1322 — Hemi pelvis, left. With congenital dysplasia. With vise attachment. Solid foam.

Large

#1294-1 — Hemi pelvis, left. With 62 mm osteoarthritic acetabulum. Solid foam.

#1309 — Hemi pelvis, left. Includes global wall deficiencies and medial wall thinning. With vise attachment. Solid foam.

#1316 — Hemi pelvis, left. With superior global defect. With 60 mm acetabulum and vise attachment. Solid foam.

#1318 — Hemi pelvis, left. With failed joint revision bone loss. With 55 mm acetabulum and vise attachment. Solid foam.

#1319 — Hemi pelvis, left. With medial global defect. With vise attachment. Solid foam.

#1320 — Hemi pelvis, left. With posterior and superior segmental defect. With vise attachment and an acetabulum of 60 mm. Solid foam.
PATHOLOGY

Large

#1301-5 — Full pelvis, 57 mm acetabulum. **With osteoarthritic acetabulum on left side.** Solid foam.

#1301-21 — Full pelvis, large. 57 mm acetabulum. **With SI joint disruption and pubis symphysis disruption.** Solid foam.

PELVIS HOLDER

#1524-58 — Pelvis holder with dual approach. This is a semi-flexible, reusable large pelvis holder designed to hold both anterior and posterior approach positions. This model holds our large full pelvis models with or without femurs and with or without lumbar vertebrae, up to L1. The holder easily secures to many working surfaces without the use of clamps.

#1660-10 — Pelvis holder with suspended dual approach. Designed to hold both anterior and lateral approach positions. Can be used for acetabular reconstruction, fracture reduction and plating, and marrow biopsy targeting.

#1703-307 — Pelvis stand. Allows for supine positioning of full pelvis models and includes vertical height adjustment. Sacrum of the pelvis must be modified for proper fit. #1301-201 already modified.

#1301-201 — Full pelvis, large. With rigid SI (sacroiliac) joints, and 57 mm acetabulum. Sacrum modified to fit stands #1703-307 and #1660-10. Solid foam.
**HIP ASSEMBLY**

**#1301-165-1** — Full pelvis with knee on stand, left. Includes black plastic stand and replaceable knee model #1145-60. Foam cortical shell.

**#1301-169** — Full pelvis with knee on stand, left. Peg in distal end allows knee angle adjustments. Includes stand #1666-1 and replaceable knee model #1145-38. Foam cortical shell.

**#1666** — Full pelvis with knee on stand, left. Peg in distal end allows knee angle adjustments. Includes stand #1666-1. Femur and tibia in plastic cortical shell, and pelvis and fibula made of solid white plastic.

**Replacement parts for hip assemblies:**

**#1145-33** — Knee, left. For #1301-161. Foam cortical shell.

**#1145-38** — Knee, left. For #1301-169. Foam cortical shell.

**#1145-60** — Knee, left. For #1301-165-1. Foam cortical shell.

**#1145-61** — Knee, right. For #1301-165-1. Foam cortical shell.

**#1301-98** — Full pelvis with knee, left. Plastic cortical shell.

**#1301-161** — Full pelvis with knee, left. Articulated with stretch tube ligaments. Includes replaceable knee model #1145-33. Foam cortical shell.

**#1666-1** — Stand for #1301-98, 1301-169 and #1666. Black plastic.

**LEG ASSEMBLY**

**#1517-7-27** — Full femur to foot with replaceable articulated knee bones. The femoral head is exposed from the soft tissue skin above the lesser Trochanter. Leg is bendable from 0 to 120 degrees.

**#1665-5** — Stand designed to hold a full leg model (#1515-7-27) and simulate hip articulation during a procedure. Includes femoral head mounting bracket.
FOAM CORTICAL SHELL WITH CANCELLOUS

Small

#1121-5 — Left. Canal diameter 9.5 mm.

Medium

#1100 — Left. Lateral to medial condyle width 71 mm. 42 mm femoral head. Canal diameter 15 mm.

#1121 — Left. Canal diameter 15 mm.

#1121-3 — Left. Canal diameter 12 mm.

#1121-9 — Left. Includes 14 mm entry site at the top of the greater trochanter and canal diameter 14 mm.

#1121-12 — Left. With proximal entry site and canal diameter 15 mm.

#1121-19 — Left. Canal diameter 11 mm.

#1121-20 — Right. Canal diameter 15 mm.

★ #1121-82 — Left. With anatomical attributes collected from average Asian population. Length is 41 cm with canal diameter 12mm.

Large

#1130 — Left. Canal diameter 16 mm.

#1130-3 — Left. Includes proximal entry site in the trochanter and canal diameter 17 mm.

#1130-4 — Left. With plug at midshaft. Includes proximal entry site and canal diameter 16 mm.

#1130-21 — Left. Proximal half only. Includes a distal midshaft chevron osteotomy and canal diameter 16 mm.

#1130-21-3 — Left. With 3 pcf light density foam. Works well for broaching and insertion of implants. Ideal for short stems. Canal diameter 15 mm.

#1130-22 — Left. Distal half only. Includes foam rubber strip from anterior portion through the intercondylar notch to the posterior attachment.

#1130-27 — Left. Canal diameter 9 mm.

#1130-37 — Left. Canal diameter 12 mm.

#1130-100 — Right. Canal diameter 16 mm. ★ = New

OVERALL FEMUR LENGTHS

Small: 35 cm
Medium: 42 cm
Large: 47 cm
SOLID FOAM

Small

#1120-5 — Left. Canal diameter 9.5 mm.

Medium

#1120 — Left. Canal diameter 15 mm.

#1120-2 — Left. Distal half only. Canal diameter 15 mm.

#1120-6 — Right. Distal half only. Canal diameter 15 mm.

#1120-20 — Right. Canal diameter 15 mm.

Large

#1129 — Left. Canal diameter 16 mm.

#1129-21 — Right. Canal diameter 16 mm.

PLASTIC CORTICAL SHELL WITH CANCELLOUS

Medium

#1103 — Left. Canal diameter 15.5 mm.

#1103-1 — Left. Canal diameter 12.5 mm.

#1103-2 — Left. Proximal half. Canal diameter 12.5 mm. Overall length 22 cm.

#1103-20 — Right. Canal diameter 15 mm.

Large

#1106 — Left. Canal diameter 15.5 mm.
**FEMUR**

**TRANSPARENT PLASTIC CORTICAL SHELL WITH CANCELLOUS**

**Small**

#1121-52 — Left. Canal diameter 9 mm.

**Medium**

#1111 — Left. Canal diameter 15.5 mm, 12.5 mm, 14 mm or 17 mm canal upon request.

#1111-7 — Left. Canal diameter 14 mm with proximal entry site.

#1111-20 — Right. Canal diameter 15.5 mm.

**Large**

#1111-9 — Left. Includes 15.5 mm entry site. Canal diameter of 15.5 mm.

**SOLID WHITE PLASTIC**

**Small**

#1121-51 — Left. 9 mm canal.

**Medium**

#1103-11 — Left. No canal.

**Large**

#1106-11 — Left. No canal.

#1106-20 — Right. No canal.

**SOLID CLEAR**

**Large**

#1701-30 — Left. Overall length of 454 mm, 15.6 mm canal.

#1701-30-1 — Left. Overall length of 454 mm, no canal.
FULL KNEE

FOAM CORTICAL SHELL WITH CANCELLOUS

Small
Includes collateral and posterior cruciate ligaments.

#1180 — Left. With stretch band ligaments. Uses tibia #1117-5 and femur #1121-5.

★ #1181 — Left. With stretch band ligaments. With anatomical attributes collected from average Asian population.

Medium
Includes collateral and posterior cruciate ligaments.

#1147 — Left. With fibula. With four nylon cord ligaments. Uses tibia #1117 and femur #1100.

#1147-1 — Left. With fibula. With four elastic cord ligaments. Uses tibia #1117 and femur #1100.

#1148 — Left. With nylon cord ligaments. Uses tibia #1117 and femur #1100.

#1148-1 — Left. With stretch band ligaments. Uses tibia #1117 and femur #1100.

#1148-4 — Left. With stretch band ligaments. Uses tibia #1117 and femur #1100-3.

#1148-12 — Left. With elastic cord ligaments. Uses tibia #1117 and femur #1100.

#1148-20 — Right. With nylon cord ligaments. Uses tibia #1117-20 and femur #1121-20.

#1148-21 — Right. With stretch band ligaments. Uses tibia #1117-20 & femur #1121-20.

#1177 — Left. With stretch band ligaments. Uses tibia #1117 and femur #1100.

#1177-1 — Left. With two stretch band ligaments. Uses tibia #1117 and femur #1100.

#1179 — Left. With nylon cord ligaments. Uses tibia #1117 and femur #1121.

#1179-1 — Left. With stretch band ligaments. Uses tibia #1117 and femur #1121.

#1179-7 — Left. With stretch band ligaments. Uses tibia #1117-13 and femur #1121.

#1179-9 — Left. With stretch band ligaments. Uses tibia #1117-14 and femur #1121.

Large
Includes collateral and posterior cruciate ligaments.

#1145 — Left. With nylon cord ligaments. Uses tibia #1126 and femur #1130.

#1145-1 — Left. With stretch band ligaments. Uses tibia #1126 and femur #1130.

#1145-4 — Left. With four nylon cord ligaments. Includes full length fibula. Uses tibia #1126 and femur #1130.

#1145-21 — Right. With stretch band ligaments. Uses tibia #1126-100 and femur #1130-100.

★ = New
NYLON CORD LIGAMENTS:
- Glued in a drilled hole in the cortex.
- Does not stretch.

STRETCH BAND LIGAMENTS:
- Latex tube glued to the outside of the cortex.
- The stretchiest material.

ELASTIC CORD LIGAMENTS:
- Glued in a drilled hole in the bone.
- Stretches.

SOLID FOAM

Medium
Includes collateral and posterior cruciate ligaments.

#1146 — Left. With nylon cord ligaments. Uses tibia #1116 and femur #1120.

#1146-1 — Left. With stretch band ligaments. Uses tibia #1116 and femur #1120.

#1146-20 — Right. With nylon cord ligaments. Uses tibia #1116-20 and femur #1120-20.

PLASTIC CORTICAL SHELL WITH CANCELLOUS

Medium
Includes collateral and posterior cruciate ligaments.

#1107-1 — Left. With stretch band ligaments. No patella. Uses tibia #1101 and femur #1103.

Large
Includes collateral and posterior cruciate ligaments.

#1107-2 — Left. With elastic cord ligaments. No patella. Uses tibia #1104 and femur #1106.

#1107-6 — Left. With 4 stretch band ligaments. With patella. Uses tibia #1104 and femur #1106.

TRANSPARENT PLASTIC WITH CANCELLOUS

Medium
Includes collateral and posterior cruciate ligaments.

#1107-4 — Left. With stretch band ligaments. No patella. Uses tibia #1112 and femur #1111.

More knee models available at www.sawbones.com
ARTHRITIC FOAM CORTICAL SHELL WITH CANCELLOUS

Medium
Includes collateral and posterior cruciate ligaments.

#1150 — Left. With four nylon cord ligaments. With arthritic conditions of the distal femur and proximal tibia.

#1150-1 — Left. With three stretch band ligaments. With arthritic conditions of the distal femur and proximal tibia.

REVISION FOAM CORTICAL SHELL WITH CANCELLOUS

Medium
Includes pre cut revision bones of femur and tibia with 17 mm gap.

#1149 — Left. With two collateral nylon cord ligaments.

#1149-1 — Left. With two collateral stretch band ligaments.

#1149-2 — Left. With fibula and two collateral nylon cord ligaments.

#1149-3 — Left. With two collateral stretch band ligaments.

OVERALL FULL KNEE LENGTHS

Small
Femur 35 cm
Tibia 30 cm

Medium
Femur 42 cm
Tibia 38 cm

Large
Femur 47 cm
Tibia 42 cm
FOAM CORTICAL SHELL WITH CANCELLOUS

Medium
Includes collateral, anterior and posterior cruciate ligaments.

#1148-8 — Left. No patella. With narrow intercondylar notch and stretch band ligaments.

#1148-9 — Left. With patella, narrow intercondylar notch and stretch band ligaments.

SOLID FOAM

Medium
Includes collateral, anterior and posterior cruciate ligaments.

#1151 — Left. With patella and nylon cord ligaments.

#1152 — Left. No patella. With nylon cord ligaments.

#1153 — Right. With patella and nylon cord ligaments.

#1154 — Right. No patella. With nylon cord ligaments.

PLASTIC CORTICAL SHELL WITH CANCELLOUS

Medium
Includes collateral, anterior and posterior cruciate ligaments

#1107 — Left. No patella. With nylon cord ligaments.
SAWBONES KNEE HOLDERS

Sawbones have over the years created a number of knee holders with different functionalities for various surgical simulations.

TKS - TOTAL KNEE SYSTEM

Sawbones TKS is a complete, compact solution for on-the-road total knee arthroplasty procedure demonstrations, training and simulation. The solid positioning system allows various knee joint cuts to be made simulating many surgical positions. It packs up quickly, will mount to any table and works with standard (left) disposable Sawbones knee models.

BENEFITS:

• Saves time in demos and workshops, only 15 seconds to change knee models.

• Holds the knee model firmly allowing tibial alignment systems to register on the foot as well as for using surgical navigation systems to digitize the medial and lateral malleolus.

• Allows you to rotate the hip through its range of motion for surgical navigation techniques.

• The foot position can easily be changed to adjust the surgical cutting position of the knee.

• Sawbones TKS comes with a carrying duffle so you can keep it together and ready at a moment’s notice.

Order references:

#1600-13 — TKS for large size knee models.

#1600-14 — TKS for medium size knee models

#1600-16 — TKS for medium and large sizes knee models. Comes with interchangeable acetabulum cups.

Scan the QR code to find out more about the TKS.
EXPRESS KNEE HOLDER

This knee holder is designed to adjust to multiple positions, for achieving different angles during a procedure, and accepts various sizes of knee models - both left and right orientation. Lightweight, compact, easy to set-up and use anywhere (knee models are sold separately).

#1600-10 — Complete Express Knee Holder. Femur support T-bar can be rotated to accommodate left or right bones and allows for a 10 degree angle to keep the bone in the proper position. Includes quick, snap-fit latch for securing the tibia in place. Includes the Knee Stabilization Accessory #1600-7, for additional stabilization and adjustable flexion for knee models with full length femurs. Also includes Distal Tibia Holder #1505, for use with most knee models. The #1505 attaches to the distal portion of the tibia to help secure your cutting guide.

#1600-9 — Express Knee Holder. Same as #1600-10 but doesn’t include the Distal Tibia Holder #1505.

#1600-6 — Express Knee Holder. Same as #1600-9 but doesn’t include the Knee Stabilization Accessory #1600-7.

BASIC KNEE HOLDERS

#1506 — Soft tissue knee holder with a wide range of motions. Total joint replacement practice can be performed. Includes C-clamp (#1601). For full length left medium or large knee models (knee models are sold separately).

#1600-5 — Multi-position knee holder includes multiple adjustable position clamps, C-clamps and soft shell carrying case. Knee or individual bones purchased separately.
**CLAMPS**

**#1600-1** — Bone clamp set, #1600 and #1601. Bone clamp #1600 can be used in a horizontal, vertical or 45° angle position. Suitable for rigid fixation of Sawbones models. Can be used for internal and external fixation and total joint replacement. C-Clamp #1601 is used for attaching either #1600 bone clamp or #1605/#1605-13 universal bone clamps to tables and work station surfaces.

**#1605/#1605-13** — Bone clamps, universal. Swivels 360° and rotates to any vertical or horizontal position. Have modified jaws for quick application and changing of Sawbones models. #1605-13 has a higher tower than #1605. Includes C-Clamp.

**#1605-1** — Vise grip clamp. Used with clamp #1600 or #1605/#1605-13 for securing irregular shaped bones such as a pelvis.

**PATIENT DEMONSTRATORS**

**#4010-1** — Hemi pelvis, left, with proximal femur and with plastic total joint implants in place. Can show range of motion and is removable from included stand. Solid white plastic.

**#1701-59** — Solid clear knee demonstrator with removable uni knee replica implants. Assembled with four stretch ligaments and patella. Removable stand included.

**#4008-15** — Modular total knee demonstrator. An interactive total knee replacement model providing three-dimensional functionality. Replica implants are included. The optional magnetically attached “disease state” femur and tibia bone pieces are sold separately.

**#1104-24-5** — Tibial plateau magnetically attached disease state cap for #4008-15. This cap works in conjunction with the #1106-33-5.

**#1106-33-5** — Femoral surface distal magnetically attached disease state cap for #4008-15. This cap works in conjunction with the #1104-24-5.
DEVICE IMPLANT REPLICA

Sawbones Device Implant Replicas are for any instrument or implant company that has a need to display, promote, or use specific implant replicas in place of the costly real devices.

The Device Implant Replicas can be produced to match most implants available on the market. They are an inexpensive alternative that can be mass-produced to facilitate major new product launches, marketing activities, sales demonstrations and physician workshops.

FEATURES:
Our implant replicas are cast and/or 3D printed from high strength materials and can be finished in several mediums such as:

- Chrome
- Matte
- Gloss colors

BENEFITS:
- Several levels of finish qualities — from base level finish for workshop applications to high level finishes for marketing and promotion.

- Much lower cost than real implants.

- Numerous colors and finish choices.

- Can be adapted to other Sawbones products and installed in our clear bones.

- Can be cast for high volume applications.
SAWBOONES CUSTOMER COMMITMENT AND PRODUCT GUARANTEE

At Sawbones, we are committed to providing the highest level of service and product quality. If you are less than completely satisfied with the performance of our products for any reason, we will gladly honor a full refund or replacement.

Contact us anytime with suggestions on how we can improve our products or service.

ORDERING INFORMATION

Please provide the part number, description, and quantity for each item requested.

Indicate precise shipping instructions, if different than the billing address, and purchase order number when applicable.

Credit cards and bank transfers accepted. Please contact customer service.

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