



ASSEMBLY GUIDE

St George's Vascular Institute Anastomotic Simulator

A portable, 3D-printable trainer for practising vascular anastomoses. These five steps take you from freshly printed parts to a simulator that packs away into its own box.

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MORE INFORMATION

sim.sgvi.co.uk

What you need

PRINTED PARTS

Base (box)	× 1
Lid	× 1
Tool tray	× 1
Sharps lid	× 1
Jig	× 1
Ball joints	× 4
Jaw components (with locking wheel)	× 4

OTHER ITEMS

Suction cups × 4
18–20 mm diameter

Practice vessels
Silicone rubber tubing, 5 mm diameter, 0.3 mm wall thickness

Recommended suppliers are linked at sim.sgvi.co.uk

TOOLS

A pair of pliers

Photos show prints in black and in green. Any filament colour works.

1

Remove the supports from the keyhole hangers

1. After printing, find the keyhole hangers for the suction cups: on the **side of the base** and on the **underside of the jig**.
2. Push the jaws of a pair of pliers into each keyhole and squeeze them together to break out the support material.



Keyhole hangers on the side of the base

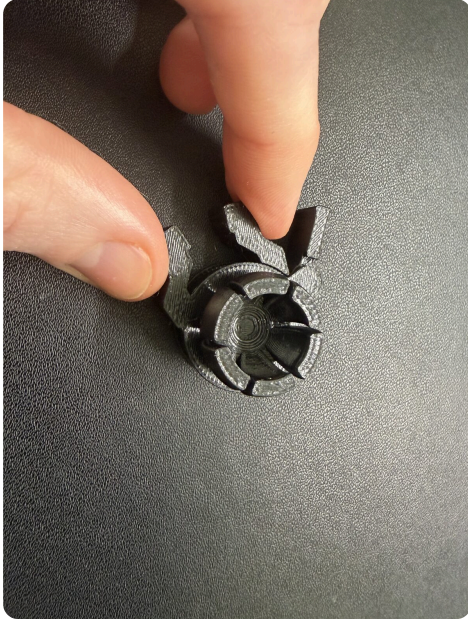


Keyhole hangers on the underside of the jig

2

Free up the jaw components

1. Squeeze the jaws of each jaw component together to release any small adhesions left from printing.
2. Move the locking wheel towards the jaws, all the way to its final locked position, to free up the locking mechanism too.



Repeat for all four jaw components before moving on.

Squeeze the jaws together

3

Screw the ball joints onto the jig

1. Turn the jig so the **keyhole hangers and locking port point downwards**.
2. Screw a ball joint into each of the four corners.

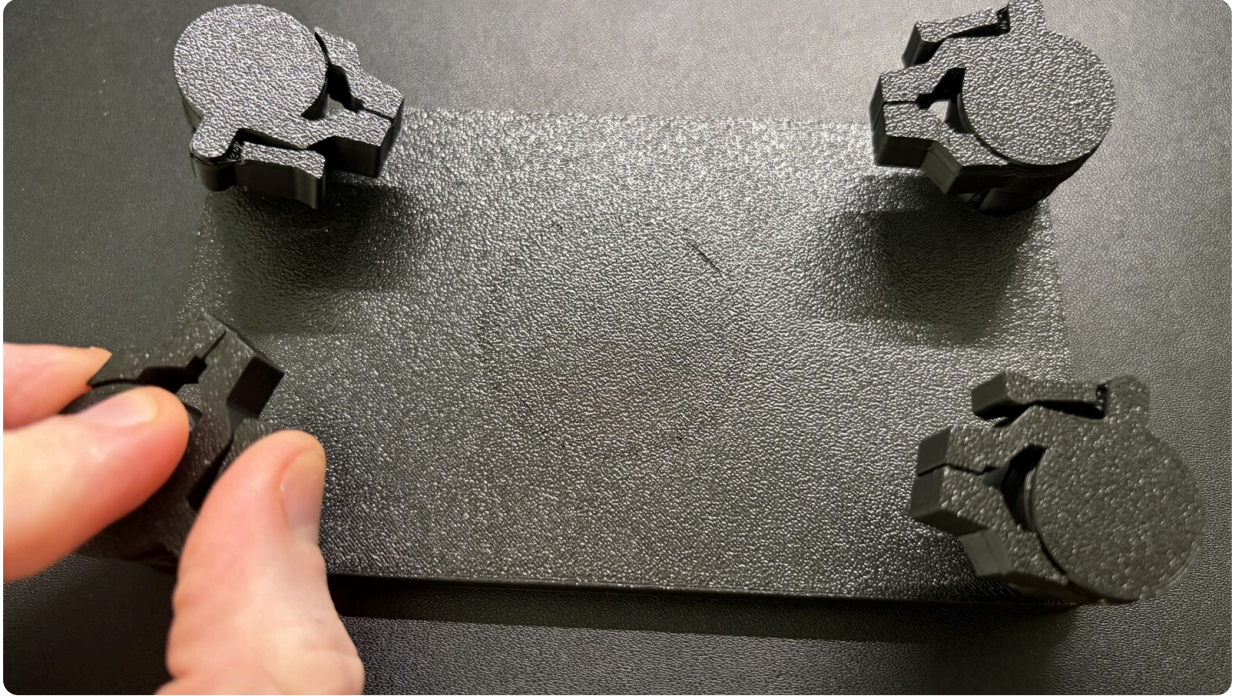


Ball joints screwed into the top face of the jig

4

Fit the jaws and lock the jig into the base

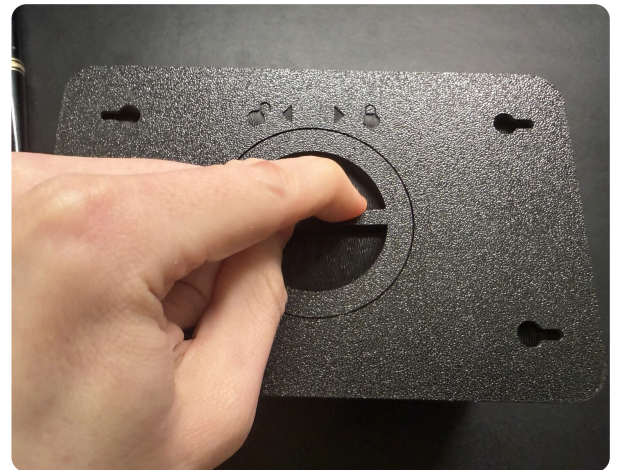
1. Push a jaw component firmly onto each ball joint.
2. Place the jig into the base.
3. On the underside of the base, turn the locking dial towards the closed padlock until it engages and locks.



Push the jaws firmly onto the ball joints



Jig seated in the base



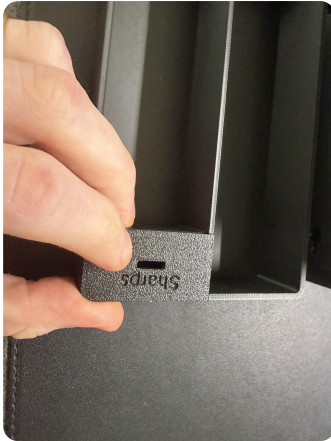
Turn the dial underneath to lock

To remove the jig later, turn the dial back towards the open padlock and lift the jig out.

5

Fit the tool tray and lid

1. Fit the sharps lid onto the sharps compartment of the tool tray.
2. Place the tool tray into the box.
3. Put the lid on.



Fit the sharps lid



Tool tray into the box



Lid on: ready to go

Using the simulator

Upright

Simulates a deep vessel, such as the common femoral.

On its side

Turn the box on its side for a below-knee anastomosis.

Jig on its own

Unlock the dial underneath and use the jig flat on the table.

- **Suction cups** fit into the keyhole hangers. Press them onto a smooth, flat, non-porous surface to hold the jig or box steady.
- **The sharps compartment is for temporary needle storage during practice only.** It is not a certified sharps container. Empty it into an approved sharps bin at the end of every session.
- For simulation and training only. Not for clinical use.
- Check printed parts for cracks or wear before use, and reprint any that are damaged.