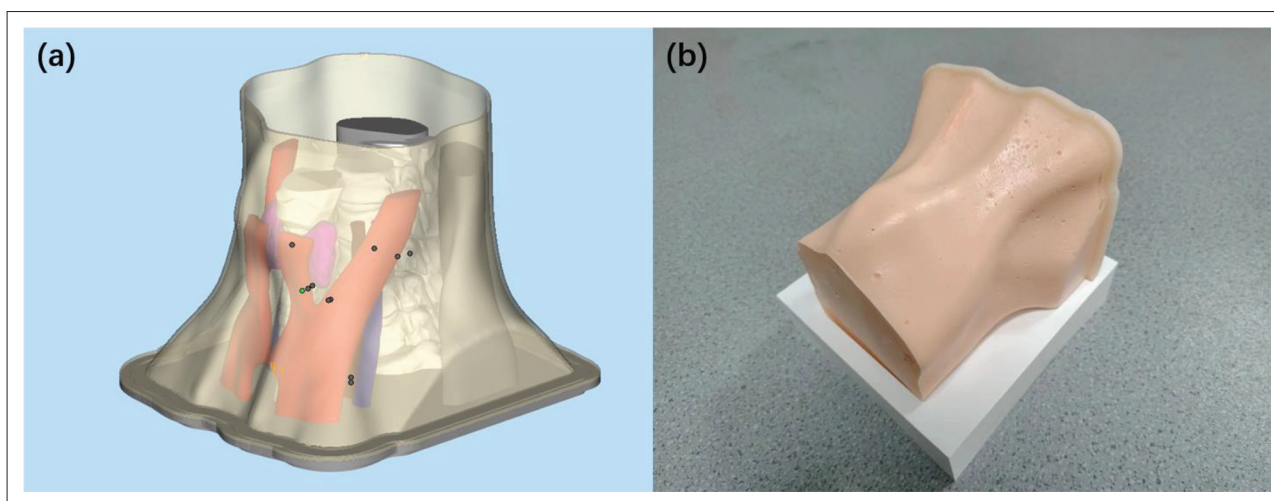


RESEARCH ARTICLE

# Multifunctional high-simulation 3D-printed hydrogel model manufacturing engineering for surgical training

## Supplementary File



**Figure S1.** Establishment of the throat and neck model file (a) and preparation of the completed hydrogel model (b).

### Other files:

**Videoclip S1.** Surgical needle puncture simulation.

**Videoclip S2.** Vascular coagulation simulation.

**Videoclip S3.** Hemostasis simulation demonstration.

**Videoclip S4.** Liver model ultrasonic scalpel cutting simulation.

**Videoclip S5.** Kidney model ultrasonic scalpel tumor removal simulation.

**Videoclip S6.** Tumor microwave ablation simulation.