

Supplies

Provided

- Matrix plate
- Sensor tray
- Micronizers
- Luer connector
- NFC tag
- Dispenser 1
- PCL
- Bed film

Additional Supplies (not provided)

- **Syringes (5ml*, 10ml, 50ml (2-3 each))**
- **21-gauge, 1 inch needle***
- Syringe caps
- Surgical tools
- 50ml normal saline
- Standing rack
- Waste tray

*These supplies **must be the exact specifications**. No substitutions. Additional supplies without asterisks can be substituted at the professionals' discretion.

Bed Film & PCL Amount Per Kit Size

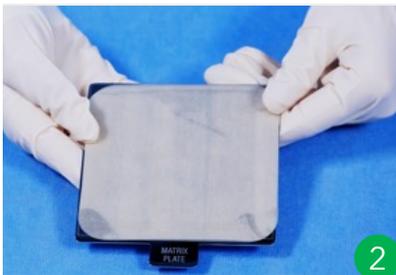
	Small	Medium	Large
Bed film	1 ea.	2 ea.	3 ea.
PCL Length	364 mm	667 mm	1,100 mm

Roles

- S** Surgeon
- 1** Non-sterile staff
- 2** Surgeon or sterile staff

Procedure Steps

Pre-check: Dock mirror on tablet AiD Regen tablet. Ensure the tablet is charged and turn on printer (if unsure if printer was sterilized after last procedure, turn on UV lamp for 30 minutes – it will shut off automatically after).



1. Prepare Sterile Field and Inject Tumescent

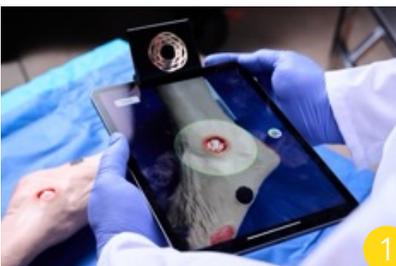
- Fill one or two 30-50ml luer lock syringe(s) with normal saline (leave 10ml of free space).
- Attach bed film to matrix plate.
- Turn PCL cover clockwise until 5-10cm of PCL comes out.
- Inject appropriate amount of tumescent to fat harvesting area and allow at least 10 minutes of infiltration prior to beginning fat harvest.

*see pg 17 in SOP



2. Debride Wound

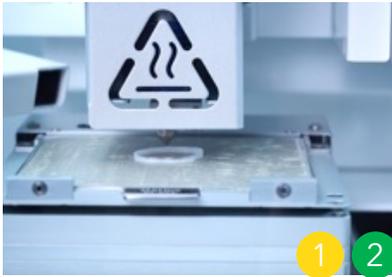
- Debride and prepare wound bed – free of necrotic tissue.



3. Detect Wound Measurements with AiD Regen Tablet

- Open and log in to the AiD Regen app.
- Use the tablet and AiD Mirror to snap a photo to conduct an AI assessment (fat + PCL requirements).
- Send the file to the printer.

*see pg 17 in SOP



4. Print Scaffold

- a. Select SCAFFOLD on screen
- b. Insert NFC tag into printer
- c. Insert Sensor Tray
- d. Insert matrix plate with bed film
- e. Insert Dispenser into Dispenser 1 Dock
- f. Remove knob and install PCL into inlet of Dispenser.

*see pg 19 in SOP



5. Harvest Fat

- a. Perform fat harvesting to collect amount of fat determined by AiD Regen tablet.



6. Micronize

- a. Connect the 10ml syringe containing harvest fat to an empty 10ml syringe with the largest size (red/4000µm) micronizer.
- b. Pass fat back and forth 11 times.
- c. Repeat micronizing steps with remaining micronizers, in descending order (yellow/2400µm, green/600µm, blue/200µm).

*see pg 20-21 in SOP

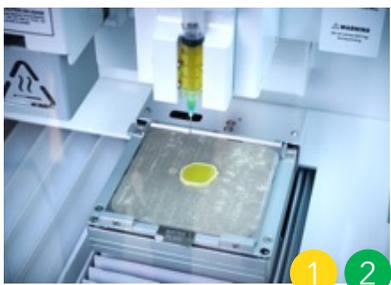


7. Tissue and Fluid Separation

- a. Using luer-to-luer connector, connect the 10ml syringe of micronized fat to a 30-50ml syringe of normal saline (approximately 3 times the amount of fat).
- b. Push fat into saline syringe, gently mix by inverting and place on standing rack with syringe cap face down.
- c. Once settled, while still inverted cap or tip down, gently discard blood and fluid beneath adipose layer.

*If more than 10ml of micronized fat is needed, repeat step a.

*see pg 21-22 in SOP



8. Print Bio Ink

- a. Transfer the determined volume of Bio Ink into 5ml syringe.
- b. Remove air then place 21G-1 inch needle securely on tip.
- c. Select BIO INK 1 on printer screen.
- d. Load Bio Ink and perform printing.

*If additional Bio Ink is required, repeat steps a-d. Do not press OK on printer screen prior to placing new syringe in printer.

*see pg 25-26 in SOP



9. Apply Patch

After 10-15 minutes of cooling, patch will solidify. Do not press DONE on printer screen until application. Doing so will stop freezing.

- a. Cut scaffold with blade, then use blunt edge of forceps to release graft from plate, and place on wound site.
- b. Apply first dressing.
- c. Apply second dressing.

*see pg 26-28 in SOP