

**Title:** Supplementary Video 1

**Description:** Side view live imaging of Hoechst labelled Met-5A cells (carrier-to-monolayer)

**Title:** Supplementary Video 2

**Description:** 3D reflectance confocal imaging of stressed mesothelia seeded on carriers

**Title:** Supplementary Video 3

**Description:** Stressed membranous GFP/mCherry labelled Met-5A cells grown on a monolayer

**Title:** Supplementary Video 4

**Description:** Independent filopodial movement on akropodium in LifeAct-mCherry stressed Met5A cells seeded on carriers

**Title:** Supplementary Video 5

**Description:** Time lapse of peritoneal PROCR+ mesothelium 4-12 hours after injury

**Title:** Supplementary Video 6

**Description:** Carrier aggregates seeded with stressed LifeAct-eGFP/mCherry Met-5A cells