Electronic Supplementary Material (ESI) for Soft Matter. This journal is © The Royal Society of Chemistry 2023

## **Supplementary Videos**

#### phi\_circle.avi

(caption:) Numerical time lapses of wound closure for the half-circle geometry. The parameters of the simulation are listed in Section 4 of the Supplementary Material file.

## phi\_moon.avi

(caption:) Numerical time lapses of wound closure for the half-moon geometry. The parameters of the simulation are listed in Section 4 of the Supplementary Material file.

### phi\_square.avi

(caption:) Numerical time lapses of wound closure for the half-square geometry. The parameters of the simulation are listed in Section 4 of the Supplementary Material file.

# • pressure\_circle.avi

(caption:) Numerical time lapses of the pressure field for the half-circle geometry. The parameters of the simulation are listed in Section 4 of the Supplementary Material file.

## pressure\_moon.avi

(caption:) Numerical time lapses of the pressure field for the half-circle geometry. The parameters of the simulation are listed in Section 4 of the Supplementary Material file.

## pressure\_square.avi

(caption:) Numerical time lapses of the pressure field for the half-square geometry. The parameters of the simulation are listed in Section 4 of the Supplementary Material file.

## · velocity.avi

(caption:) Numerical time lapses of the pressure field for the half-square geometry. The parameters of the simulation are listed in Section 4 of the Supplementary Material file, except for the Darcy coefficient, which is set to Da = 3.87 e+02.