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Wetting dynamics of living drops STEPHANE DOUEZAN, KARINE GUEVORKIAN, SYLVIE DUFOUR, DAMIEN CUVELIER, FRANCOISE BROCHARD-WYART, Institut Curie — Tissue spreading is a fundamental process in embryonic development, wound healing, and cancer invasion. We study the spreading dynamics of cell aggregates on solid substrates by means of an analogy with the wetting of a viscoelastic drop. At long times, a precursor film of cells spreads around the aggregate with two possible states: either a liquid state (cohesive migration) or a 2D gas state (where cells escape individually) depending on the cell-cell adhesion. These results provide insight into the progression of a non-invasive tumor into a metastatic malignant carcinoma.

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