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Droplet impact on a needle BEN LOVETT, ANDREW MERRITT, TADD TRUSCOTT, Utah State University — A droplet impinging a hydrophobic surface (low We) spreads to a maximum diameter before retracting to the center of impact and sometimes lifting off. If the impact surface is augmented by a small ridge, the droplet will often split at this surface feature upon spreading resulting in a shorter time to lift off [Bird et. al., Reducing the contact time of a bouncing drop. *Nature*, **503**, 2013]. We investigate how a singular feature (needle point) generates a similar reduction in droplet contact time. Droplets of diameter (< 2 mm) were controlled to impact varying needles at various impact velocities (*We* range: 16 - 256). While it was initially supposed that splitting the droplet into more pieces would further decrease contact time, this was not observed. Rather, the spreading event at the center of the droplet has a greater effect on contact time.

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