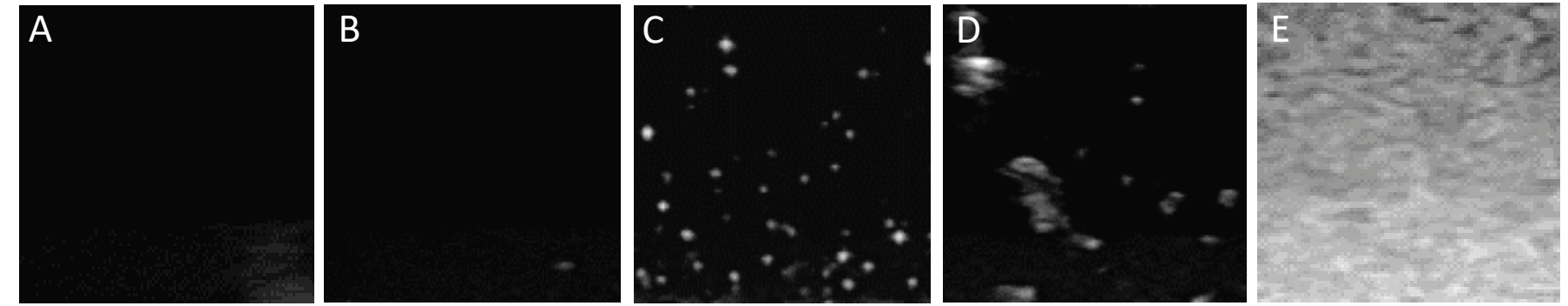
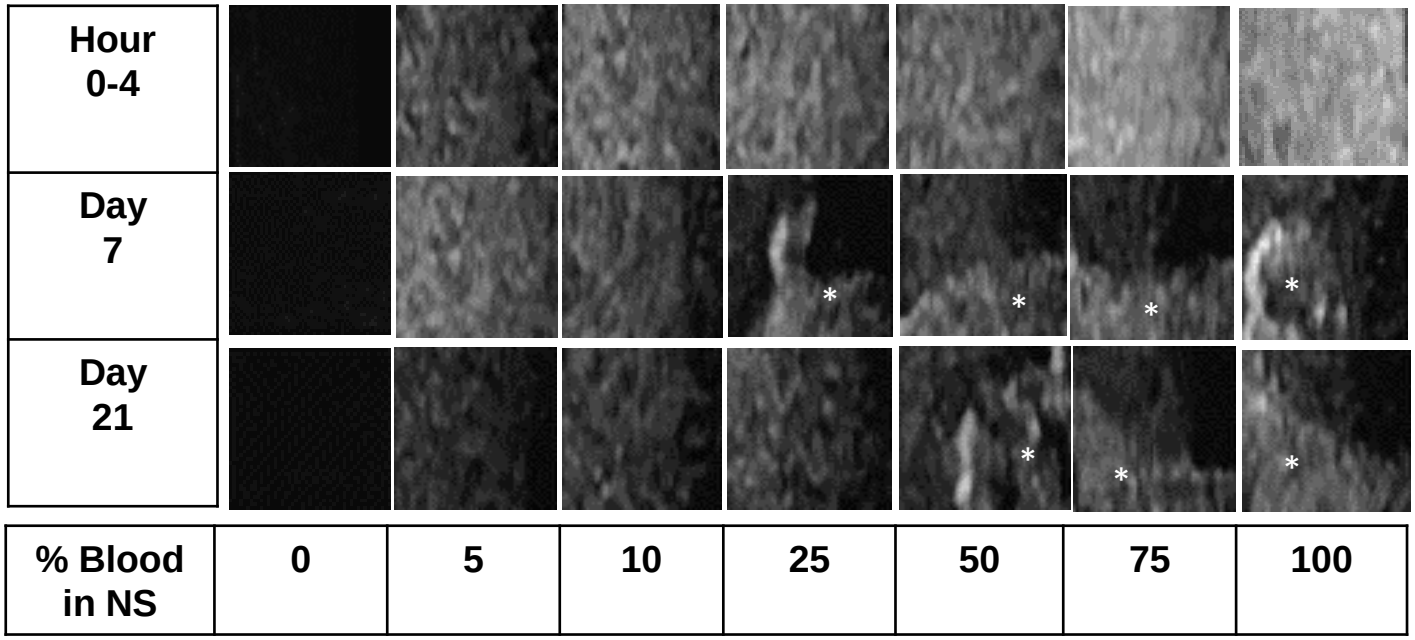
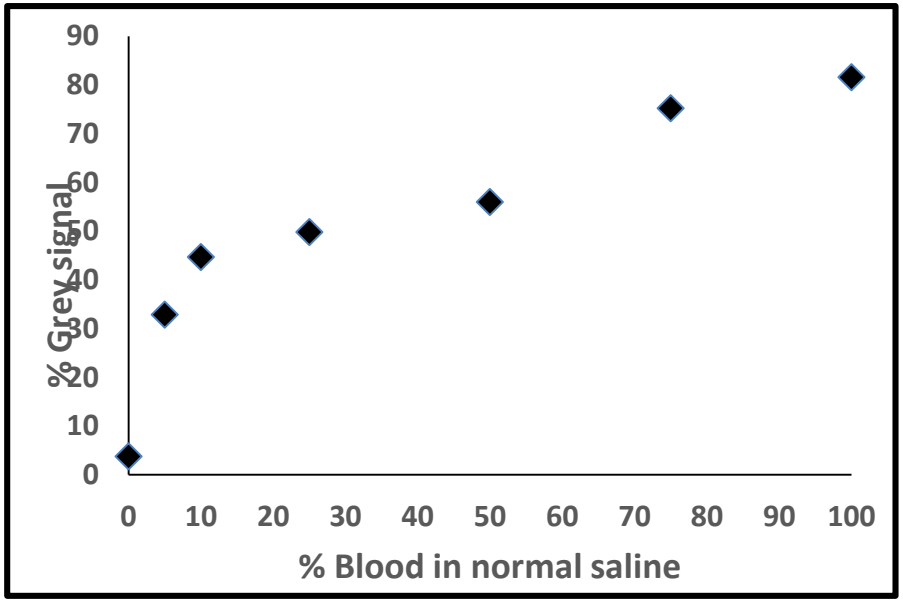


Supplemental Figure 1: Ultrasound appearance of different fluids *in vitro.* Different solutions were contained in the 3-6cc syringes and were subjected to ultrasound imaging. Normal saline (NS), normal pooled plasma (NP), normal pooled plasma with hyaluronic acid (NP + HA) appeared anechoic, similarly to simple joint fluid (A, B, C, D). Ultrasound image of NP + HA contained hyperechoic speckles due to non-dissolved HA aggregates (C). Ultrasound image of simple joint fluid reflected scattered hypoechoic materials and speckles due to the presence of air bubbles (D). Blood (concentration 100%) generated distinct homogenous echogenicity (E).

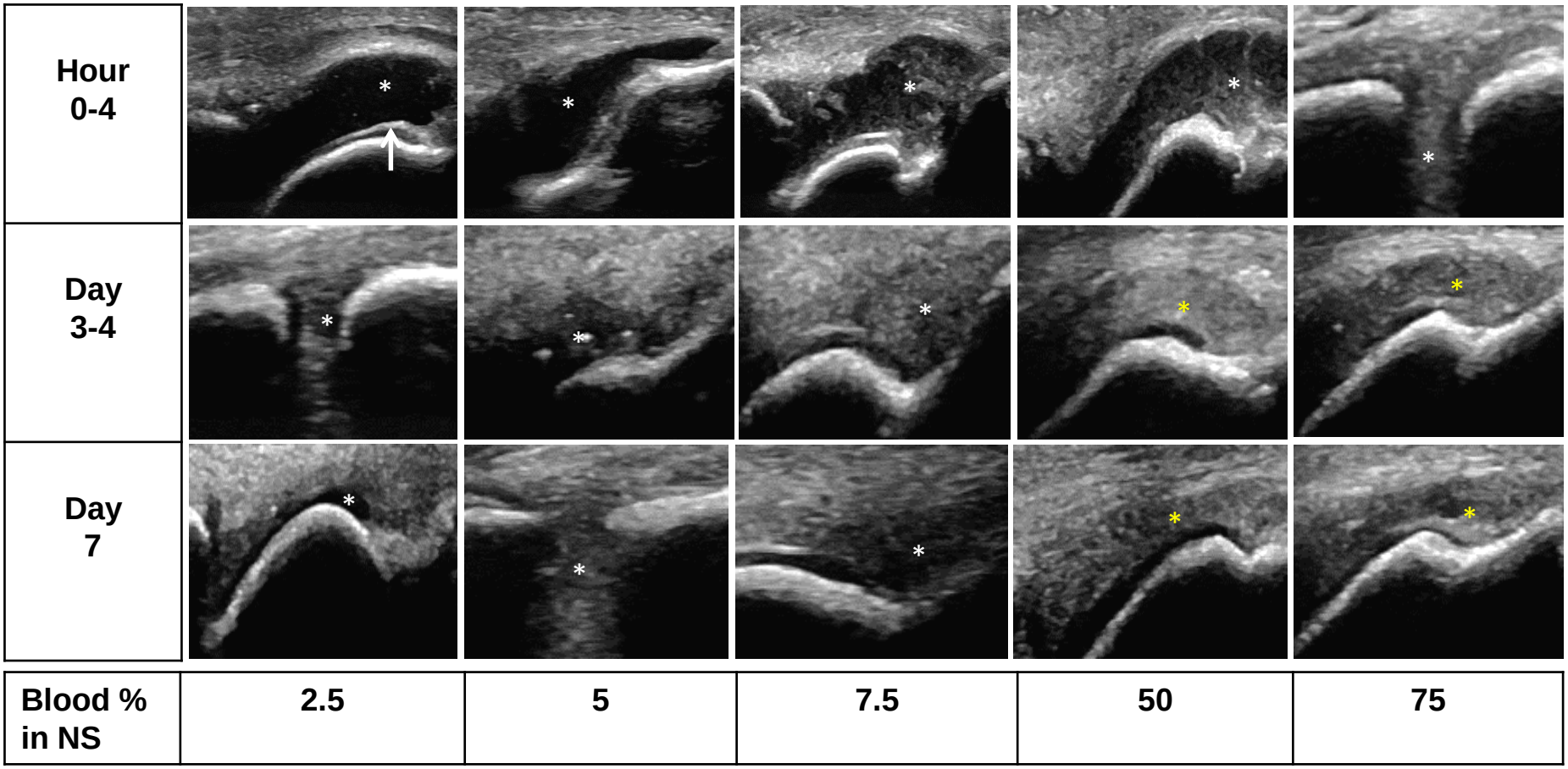
A.



B.



Supplemental Figure 2: Time course of ultrasound appearance of blood dilutions and clotted blood *in vitro* with normal saline. Freshly drawn human blood was diluted into normal saline at increasing concentrations in 6cc syringes. The syringes were subjected to serial ultrasound imaging at the indicated time points. The syringes were stored in vertical position at room temperature between imaging sessions. Prior to imaging, the syringes were shaken carefully to not disrupt formed blood clots. **A.** Ultrasound appearance of the blood dilutions in comparison to NS over 3 weeks. White asterisk: Blood clots appearing hyperechoic in relation to surrounding serosanguinous fluid. Non-bloody fluid was anechoic, while blood dilutions as low as 5% generated echogenicity. **B.** Analysis of increasing concentrations of blood at 0-4hrs after blood withdrawal using ImageJ software.



Supplemental Figure 3: Time course of ultrasound appearance of blood dilutions in NS and clotted blood in the MTP joints of cadaveric pig feet. NS was admixed with increasing concentrations of freshly drawn human blood, injected into the MTP joint spaces at a volume of 3-5 mL, and subjected to ultrasound imaging. White asterisk: Fully compressible fluid-filled spaces. Yellow asterisk: Partially or non-compressible clotted and aging blood products. Arrow: Interface between anechoic articular cartilage and fluid. White asterisk: Fluid-filled compressible areas in the joint space. Yellow asterisk: Partially or non- compressible clotted and aging blood products. At 2.5-5% blood dilutions, echogenicity was equivocal while clear echogenic signals could be appreciated starting at 5-7.5% blood dilution. Aging blood products/clots appeared hypoechoic and granular relative to the surrounding soft tissue. The echogenicity of blood clots/products did not change noticeably over the one week time point. NS, normal saline; MTP, metatarsophalangeal.