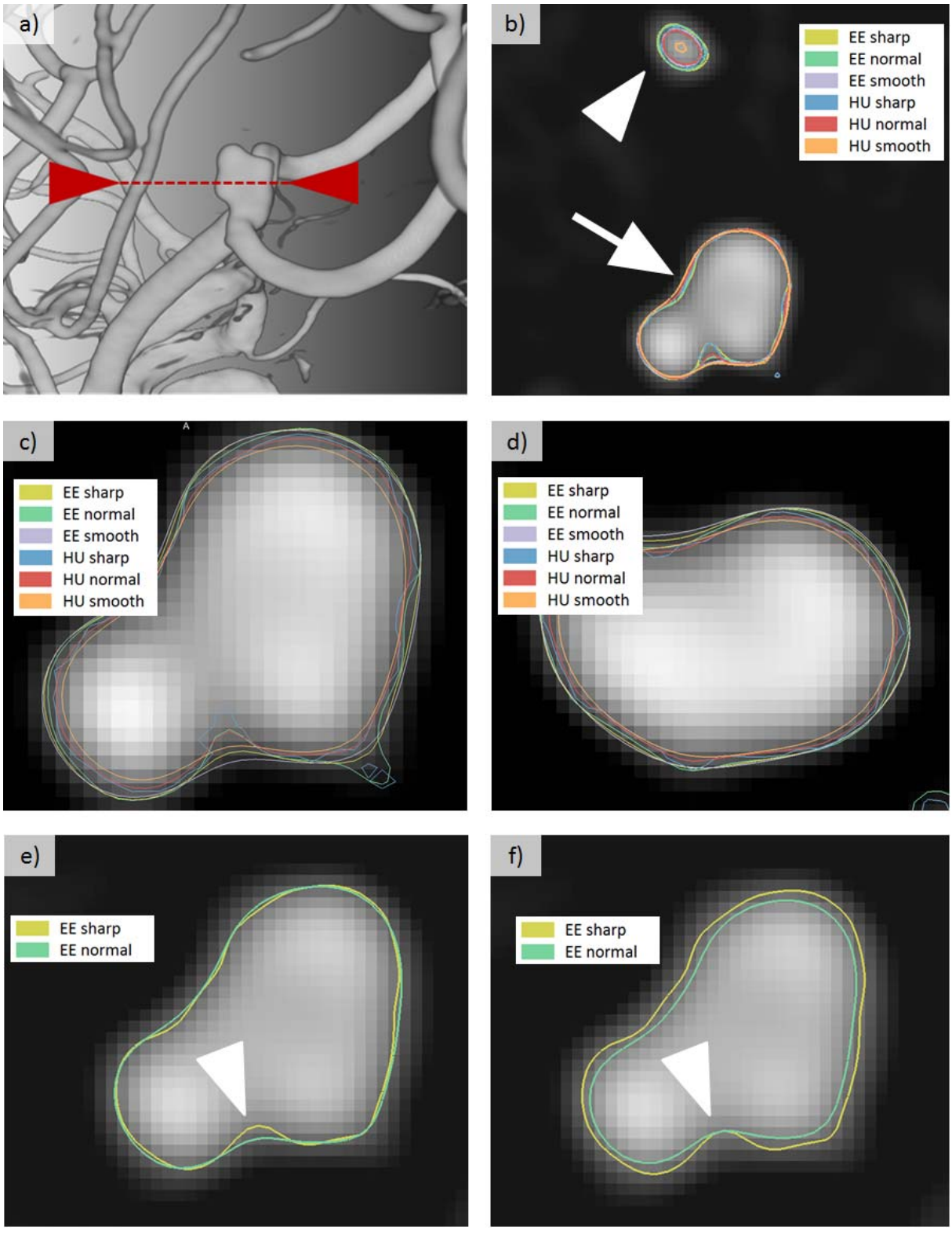
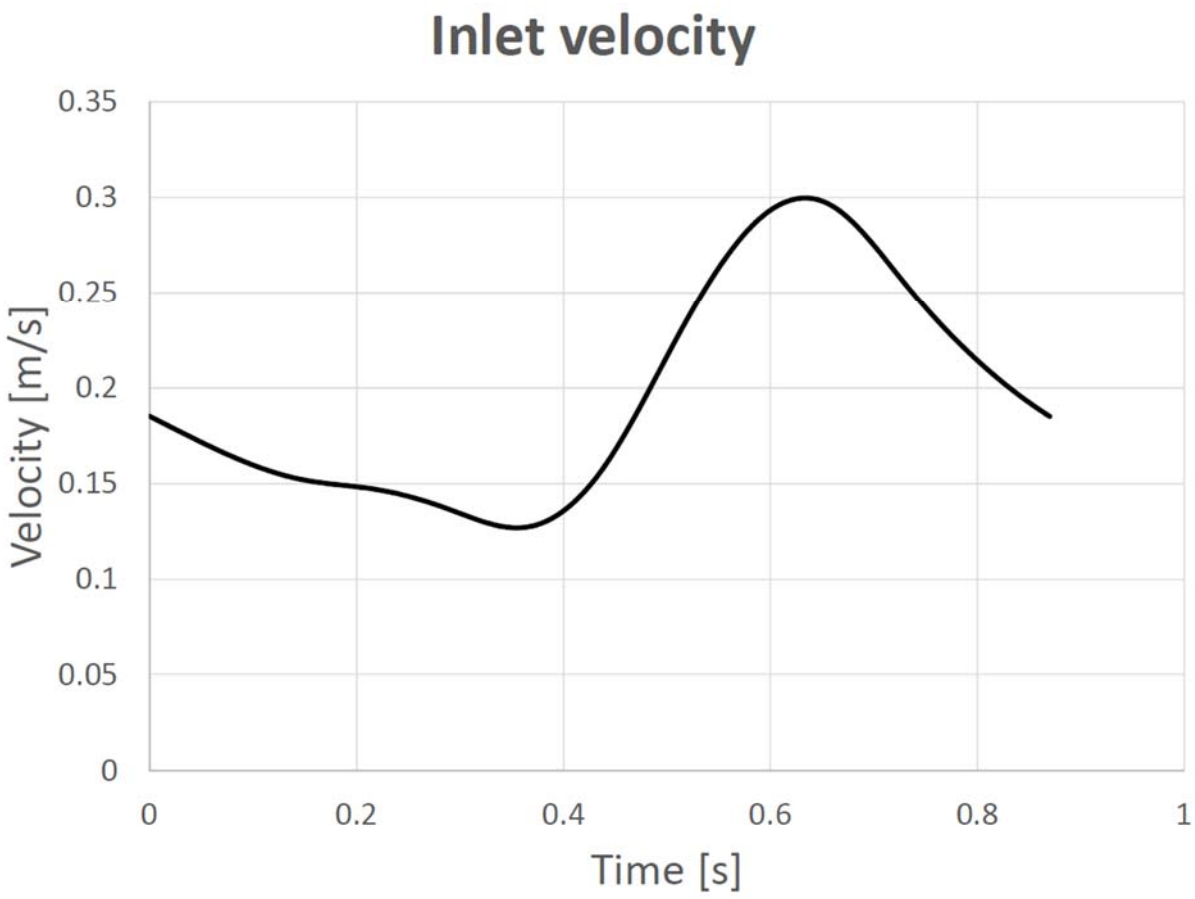
Online Figure 1



Online Figure 1: Illustration of the segmentation process and variations due to reconstruction kernels. a) A reference segmentation was extracted for case 5 reconstructed with HU normal. For adaption of the remaining segmentations, a representative slice comprising the aneurysm, indicated with arrowheads, is chosen. b) The corresponding slice of HU normal is shown with the adapted thresholds such that similar IA segmentations are achieved (see arrow). The resulting isocontours of the segmentation masks are color-coded. The reconstruction

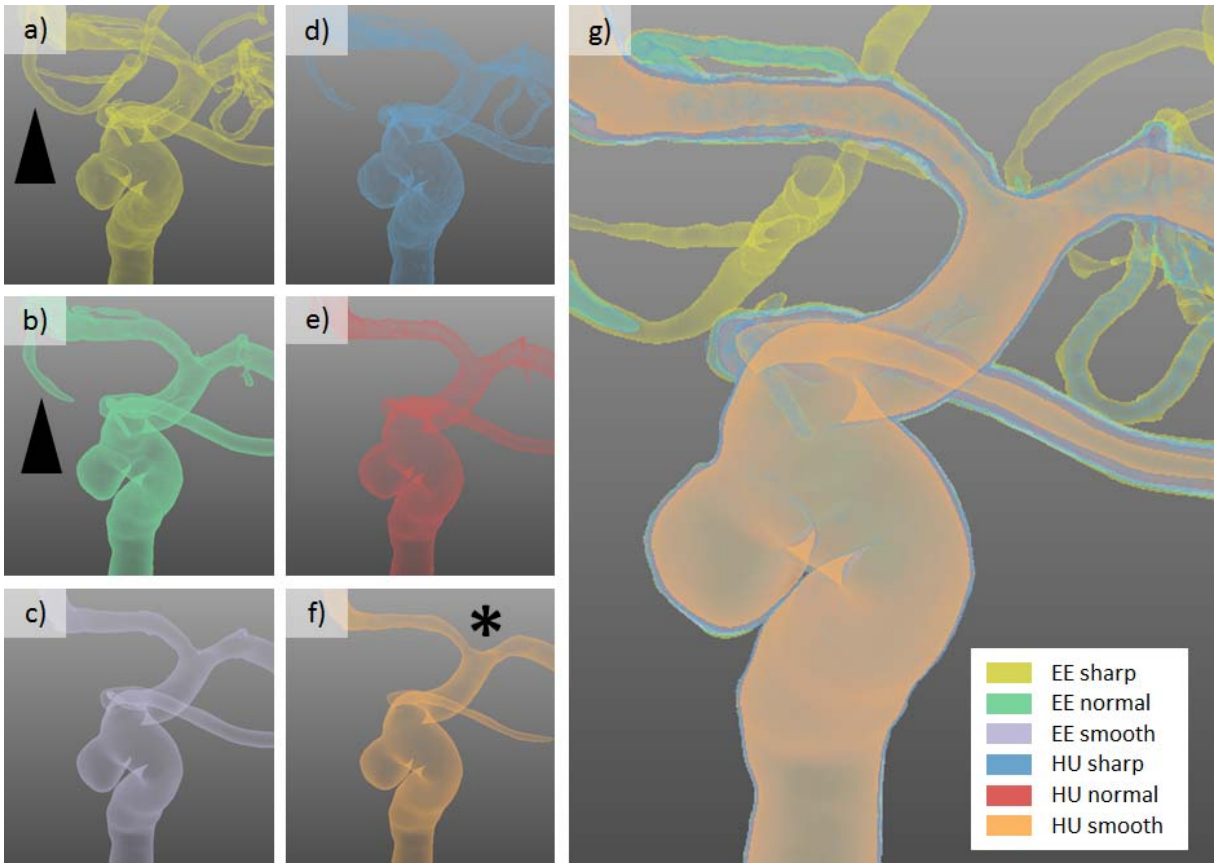
kernels influence the extent of the segmentation, especially for peripheral vessels (see arrowhead). c) The same slice is depicted, but for all six reconstructed datasets, an identical threshold was chosen yielding strong variations of the segmentation result. d) A slice comprising the ostium for the same case and for the identical thresholds is shown. e) The isocontours based on the adapted threshold values for EE sharp (5693.8) and EE normal (4578.4) are depicted. f) The threshold value for EE normal was increased to 7200 to match the strangulation at the bottom center of the aneurysm yielding a too small volume for the EE normal-based segmentation.

Online Figure 2



Online Figure 2: Peak-systolic velocity magnitude at the ostia of the eight patient-specific aneurysms (from top to bottom). The illustration allows a qualitative in-plane comparison of hemodynamic predictions using six available reconstruction kernels (from left to right). Notice that in six of the eight patients (case 3-8), the absolute velocity magnitude values were higher in those data sets reconstructed with smooth characteristics due to smaller diameters. Furthermore, cases based on HU reconstructions show generally higher velocities compared to EE-based segmentations.

Online Figure 3



Online Figure 3: Segmentation results of aneurysm case 1: a)-f) Transparent, shaded 3D surface views for EE sharp (a), EE normal (b), EE smooth (c), HU sharp (d), HU normal (e) and HU smooth (f), respectively. Arrowheads illustrate the different side branch representations. A pseudostenosis is highlighted by the asterisk. g) The combined view of all segmentations demonstrates the different aneurysm neck representations.