Legends for Supplementary Videos

**Supplementary Video 1.** Representative movie of normal tear kinetics imaged by tear interferometry for the right eye of a 38-year-old male (breakup time, 10 s; meiboscore, 0; lipid layer thickness, 89 nm; Schirmer test value, 13 mm). A grayish interferometric fringe with a stable tear film (noninvasive breakup time of >10 s) is apparent.

**Supplementary Video 2.** Representative movie of non-SS-ADDE tear kinetics imaged by tear interferometry for the left eye of a 74-year-old female (breakup time, 1 s; meiboscore, 2; lipid layer thickness, 123 nm; Schirmer test value, 1 mm). A multicolor interferometric fringe (after natural blinking) with an unstable tear film (noninvasive breakup time of 4 s) is apparent.

**Supplementary Video 3.** Representative movie of MGD tear kinetics imaged by tear interferometry for the left eye of a 54-year-old male (breakup time, 3 s; meiboscore, 6; lipid layer thickness, 21 nm; Schirmer test value, 31 mm). An amorphous interferometric fringe (after natural blinking) with an unstable tear film (noninvasive breakup time of 4 s) is shown. The tear film began to break up immediately after eye opening, with the breakup then spreading over the entire cornea.