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# Interaction of the Tear Film with the Ocular Surface

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**Presenter Information**

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## **Interaction of the Tear Film and the Ocular Surface**

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The tear film is a thin fluid layer left on the surface of the eye after a blink. Its quantity and quality are critical for good vision and eye health. During blinks or tear break up (TBU), the tear film can interact with the ocular surface. One example of this interaction is that the tear/air interface can mimic the surface roughness of the underlying corneal epithelial surface. Mathematical model problems suggest when the corneal surface roughness may be visible during *in vivo* imaging experiments. Another example of interaction is that in some kinds of TBU, the saltiness of tears can increase significantly, and thereby affect the corneal surface via water and ion transport through epithelial cells. We describe models and results that treat this interaction between the corneal epithelium and the tear film as well.

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