

# The Ability of Face Shield Style to Provide Protection

The comparative findings demonstrate that face shield geometry plays a significant role in determining droplet protection effectiveness. The vacuum-formed BetterShield, which provides concave curvature across multiple planes, more closely conforms to the human head's anatomy than the planar flat-sheet design. This improved anatomical conformity reduces direct droplet impingement and enhances lateral deflection of fluid spray.

The figures on the right provide a comparison of the face shield geometries in relation to the head.

Particularly under forward-leaning postures (ie. 45° angle), common in clinical and reprocessing tasks, the contoured design maintained superior protection in the oral and nasal zones, which are key transmission portals for infectious materials. Conversely, the flat-sheet design exhibited notable deficiencies in these same regions, especially at greater head flexion angles.

The **BetterShield study**\* underscores the importance of shield geometry in optimizing splash and droplet protection. The contoured BetterShield demonstrated consistently greater protective coverage across all tested angles compared to the traditional flat-sheet face shield.

These findings suggest that PPE designs incorporating multidimensional curvature may offer improved safety for healthcare and sterilization personnel engaged in high-splash-risk activities.

Future work may include quantitative droplet density measurements, expanded angular ranges, and testing under varied spray velocities to further substantiate these observations.

\* "A Comparative Study on the Ability of Face Shield Style to Provide Droplet Dispersal Protection under Simulated Conditions" Report # ER-092525-01

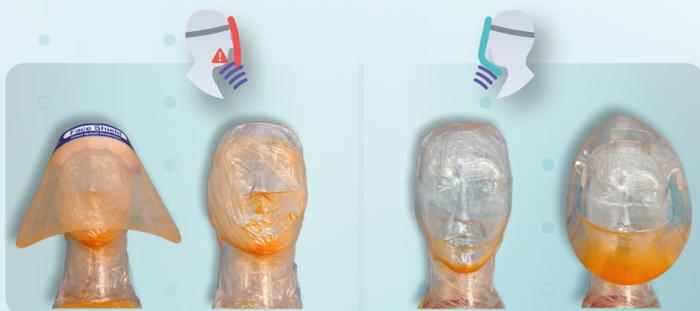
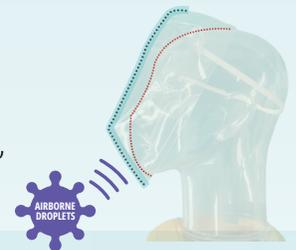


## OLD WAY

Traditional flat face shields don't protect against splash or airborne droplets\*

## BETTER WAY

BetterShield's 3D contoured face shield provides superior protection, wrapping under the chin and around the face



15° SPRAY ANGLE

Upright Posture / Light Sink Work



45° SPRAY ANGLE

Deep Basins / Reaching in Sinks

