

Lightweight Face Shield Attachable to Mouthpiece Devices

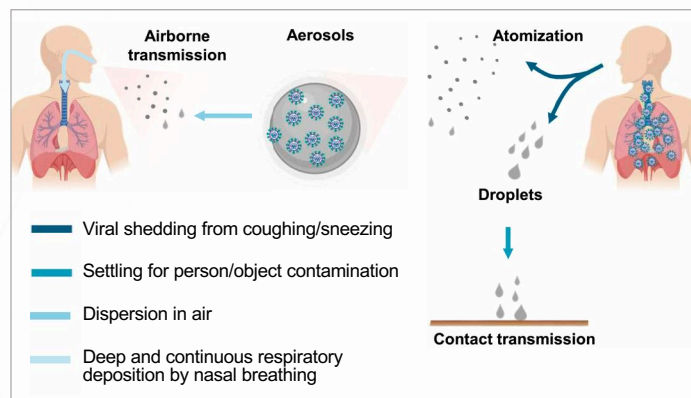
VTIP 21-029: “Mouthpiece-mounted Face Shield”

THE CHALLENGE

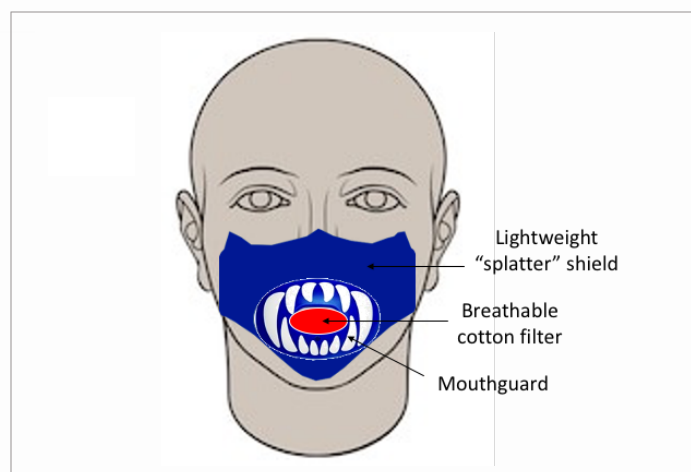
The COVID-19 pandemic has changed the way people interact and operate including activities such as competitive athletics. Football, for instance, is a high-contact, close-proximity sport that has been significantly disrupted by the pandemic. Play has been reduced, restricted, and in some cases cancelled due to an inability to effectively handle the potential spread of the coronavirus. One of the greatest challenges facing football and other popular contact sports is the need to reduce the risks of COVID-19 exposure during athletic competition. Preventative measures used in normal social settings can restrict breathing or are otherwise impractical for use during athletic activities.

OUR SOLUTION

This technology consists of a simple assembly that converts a commercially available mouthguard into a combined lightweight face shield and breathable filter device well suited for outdoor athletic competition. When used appropriately, the device can offer an effective alternative to full-face protective gear used to prevent the spread of viral diseases via aerosol droplets during athletic activity. An important advantage of our innovation is that a) it affordably enhances commercially available mouthguards and b) the distance from the nose/mouth to the mouthpiece-mounted shield/filter is very short, which effectively reduces the dispersion of exhaled respiratory droplets. In this regard, the device offers protection both to the wearer and to other athletes in close proximity to the wearer.



Transmission of COVID-19 via aerosol droplets.



Modified mouthpiece concept: a simple assembly converts a conventional mouthguard into an integrated lightweight face shield and breathable filter.