

Tobias Neher

Odense (Denmark)

Detection and prevention of rollover at above-conversational speech levels

While a level increase typically improves speech intelligibility at low presentation levels, it can lead to poorer intelligibility at high levels. Termed rollover (RO), this phenomenon can affect aided outcome adversely. So far, methods for handling RO in audiological practice do not exist. Here, we present ongoing research that investigates methods for detecting RO and for preventing it with hearing aids. On the diagnostic side, we measured speech intelligibility at multiple presentation levels with different speech materials and listeners with normal and elevated hearing thresholds. We found RO at moderate to high levels with different speech materials for both listener groups. On the hearing aid side, we are currently developing a fitting strategy aimed at preventing RO by placing speech in that area of a given individual's performance-intensity function where both speech intelligibility and listening comfort are high. First results show that this strategy can ensure better outcome at above-conversational levels as compared with a clinically established solution.