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**Intense sonar pings induce temporary threshold shift in a  
bottlenose dolphin (*Tursiops truncatus*)**

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For over a decade it has been suggested that high intensity anthropogenic sounds, such as sonar, could induce a temporary threshold shift (TTS) in odontocetes. Although TTS has been examined in marine mammals, the temporary physiological effects of sonar sounds have yet to be established. This study explored the effects of high-intensity (up to 203 dB re: 1  $\mu$ Pa), mid-frequency sweeps (2-4 kHz) on the hearing of a bottlenose dolphin (*Tursiops truncatus*). The goal was to determine if these sounds could induce TTS and what sound exposure levels (SEL; dB re: 1  $\mu$ Pa<sup>2</sup>s) were necessary for TTS to be induced. Fatiguing sounds were presented to mimic that of mid-frequency sonar. Hearing thresholds were measured before and after exposures using auditory evoked potentials to determine amount of shift and rate of recovery. Temporary threshold shifts of 5-6 dB were measured using SELs of 214 dB, in situations when 15 sonar pings were presented in series. Recovery to normal hearing was rapid, typically within 5 to 10 min. Exposure levels required to induce TTS were high, supporting the notion that relatively short sounds must be of relatively high intensity to induce threshold shifts.