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Human Underwater and Bone-Conduction Hearing in the Ultra-High Frequency Range

**NAVAL SUBMARINE MEDICAL RESEARCH LABORATORY
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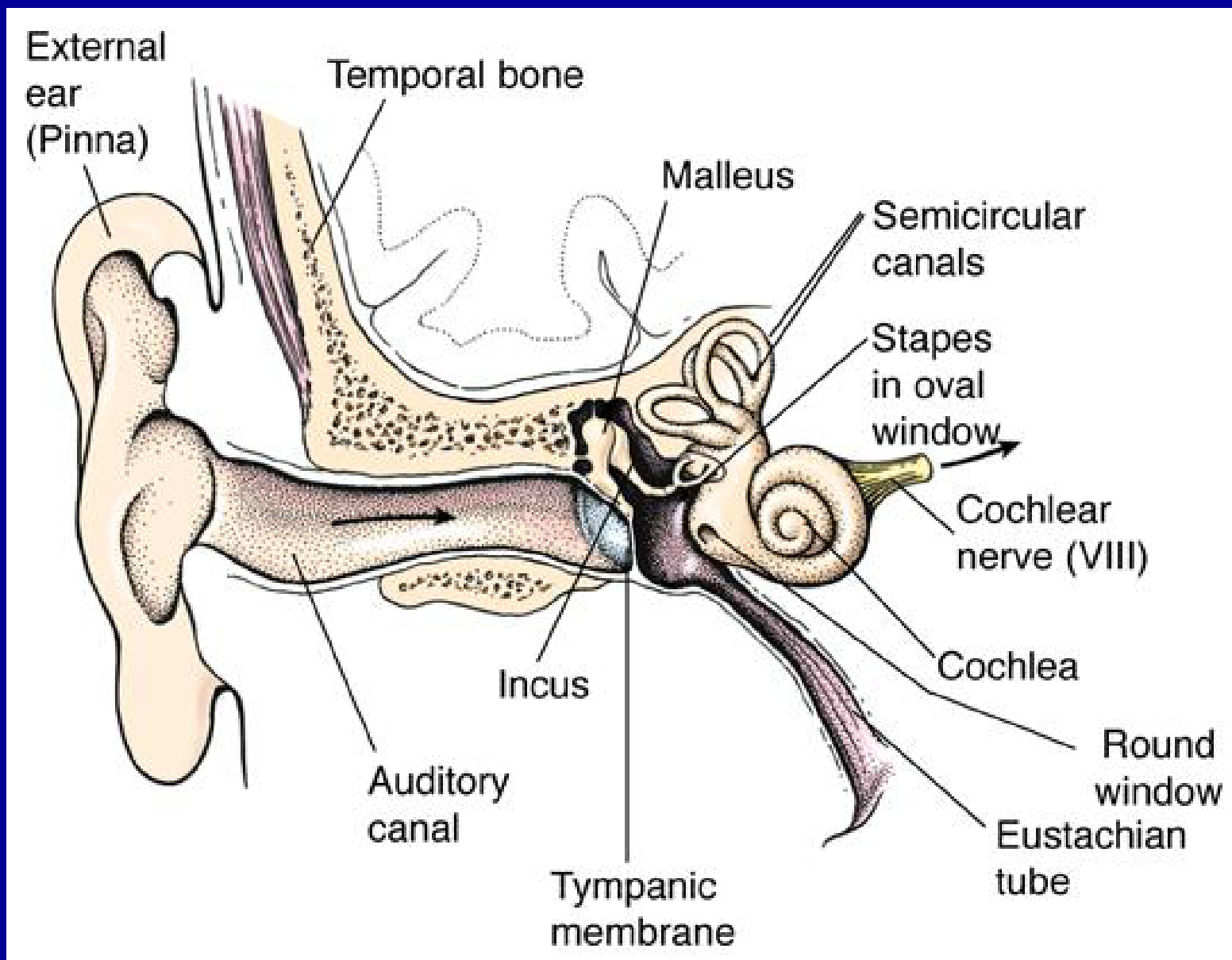
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Sponsoring Institution: ONR 6.1



Mechanisms for Hearing





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Underwater Hearing Threshold

Send data request to NSMRL.



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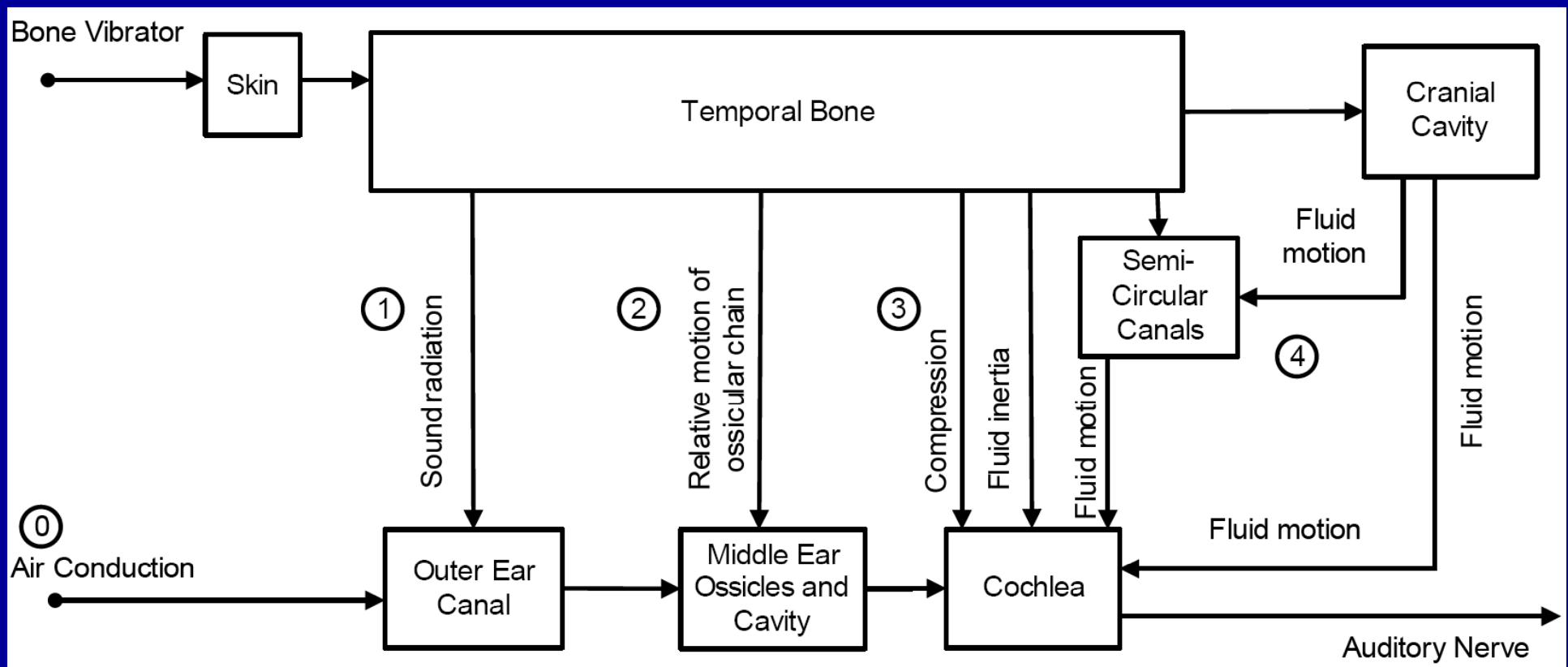
Project Goal

**To understand the mechanism(s) for
ultra-high frequency hearing.**



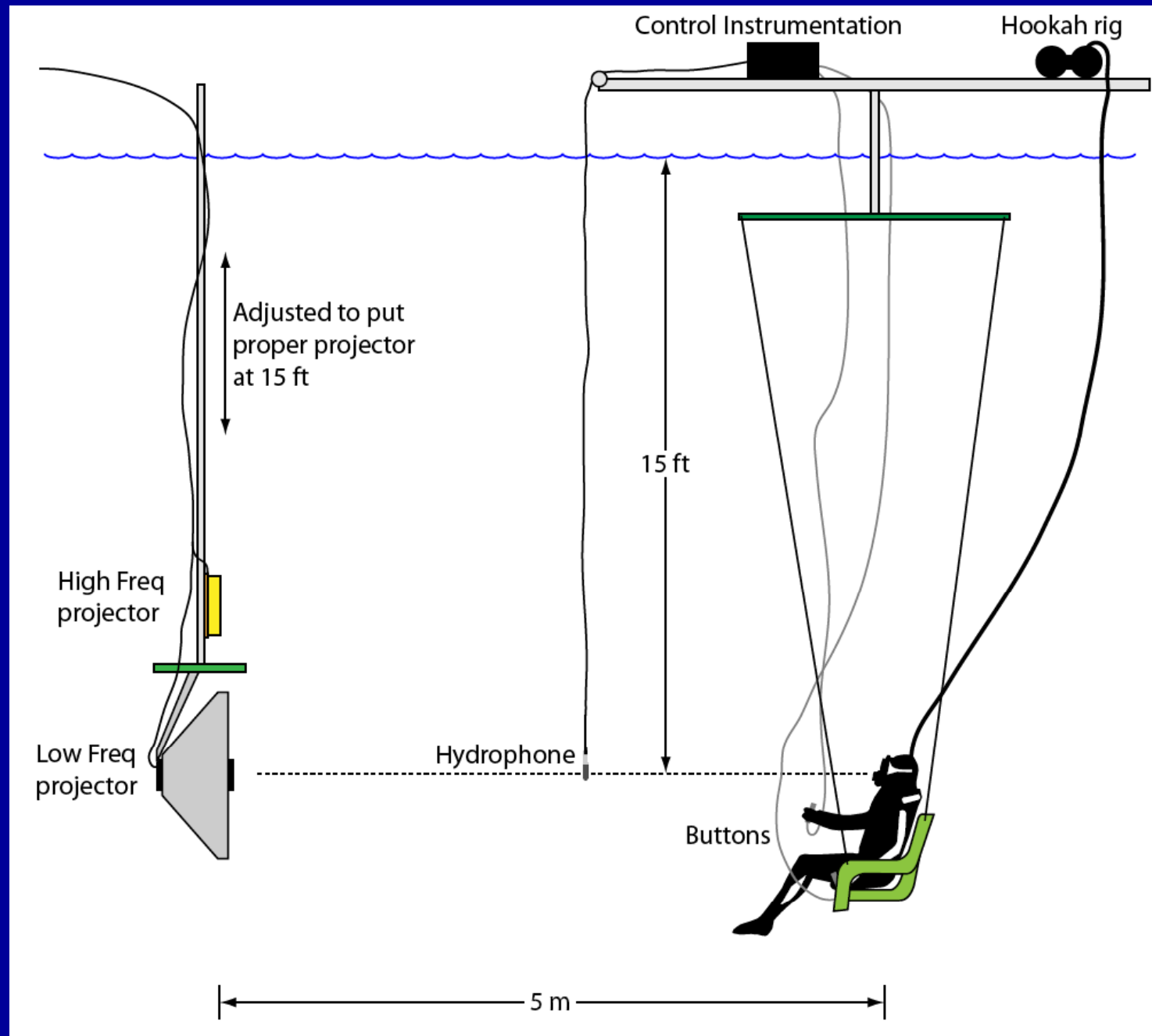
Hypothesis

Non-linearity in the skull, and/or soft tissue, and/or cerebral spinal fluid distort ultrasonic frequencies down into the audible frequency range.





Underwater Setup





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Behavioral Threshold

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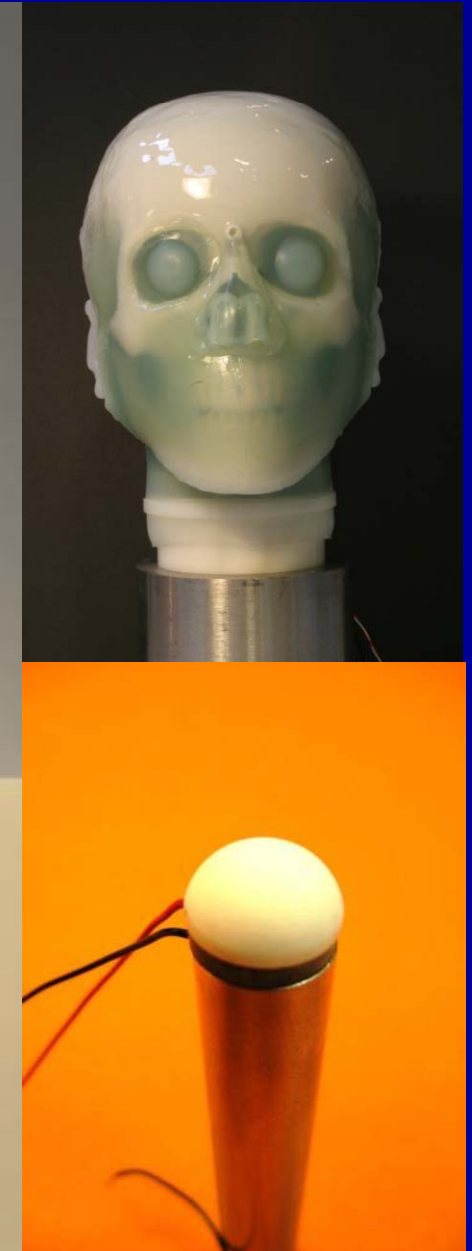
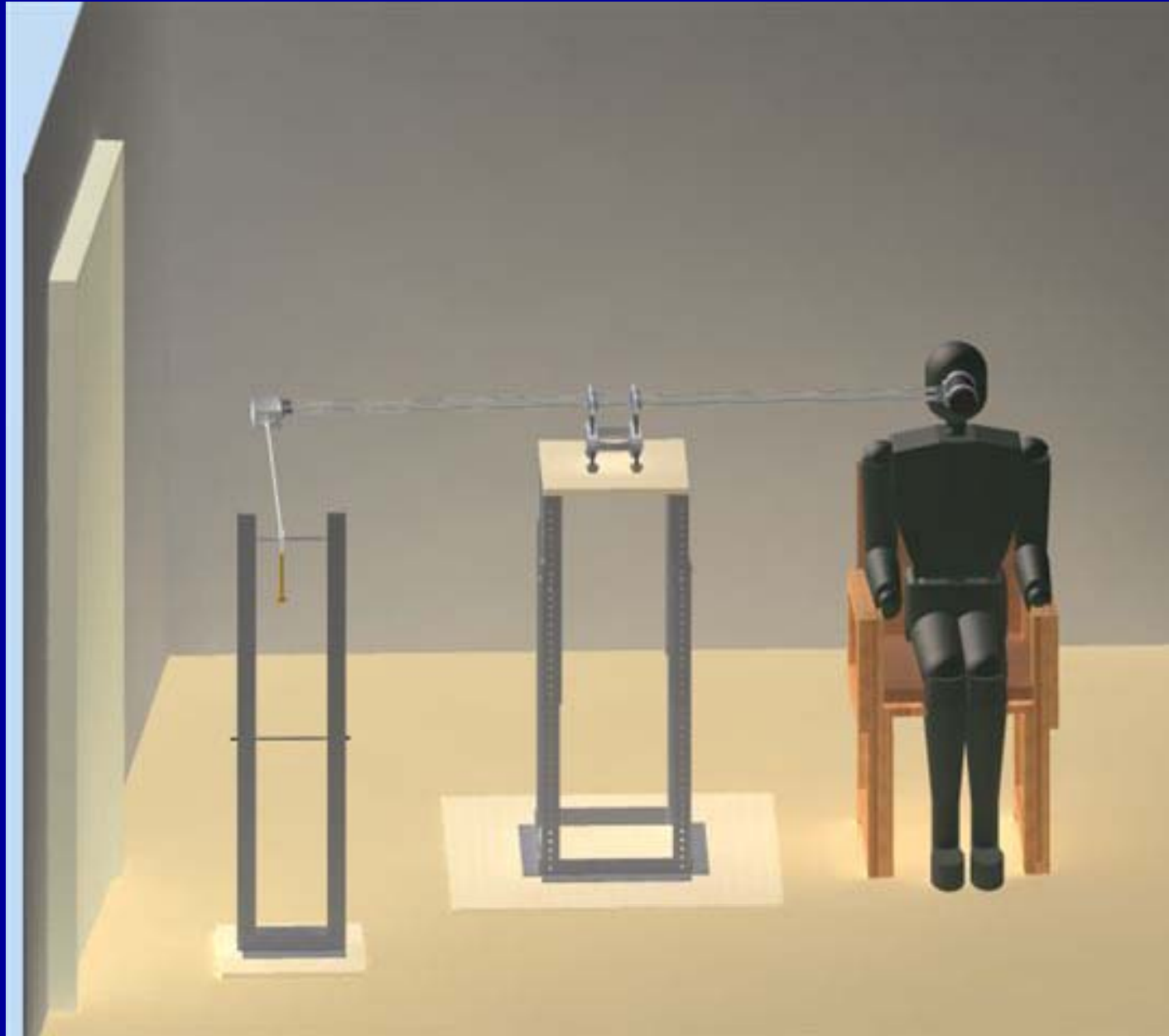


“St. John”





Pressure to Force Relationship





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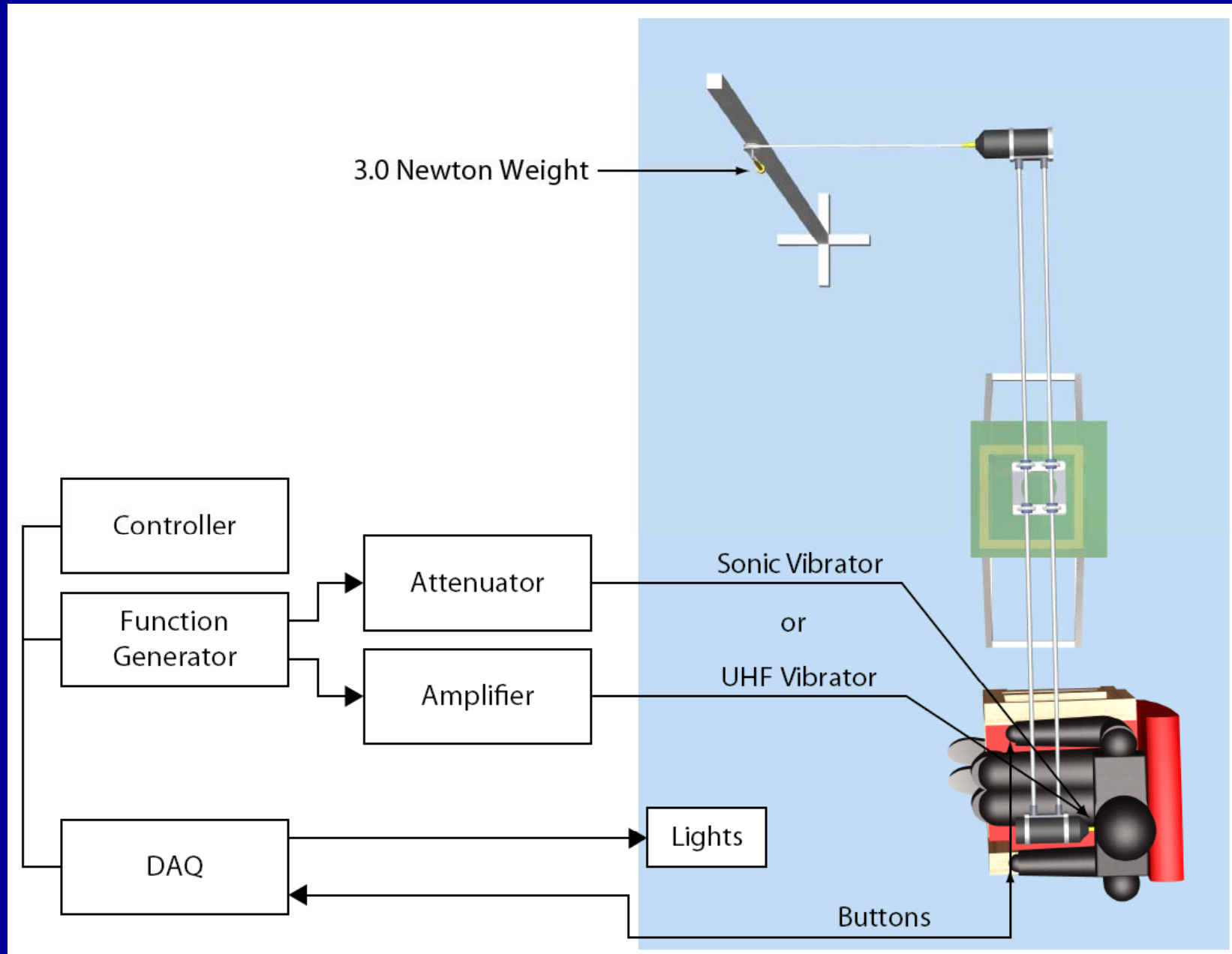


Internal Pressure vs. Force

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Bone-Conduction Setup





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UW and BC Threshold

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