

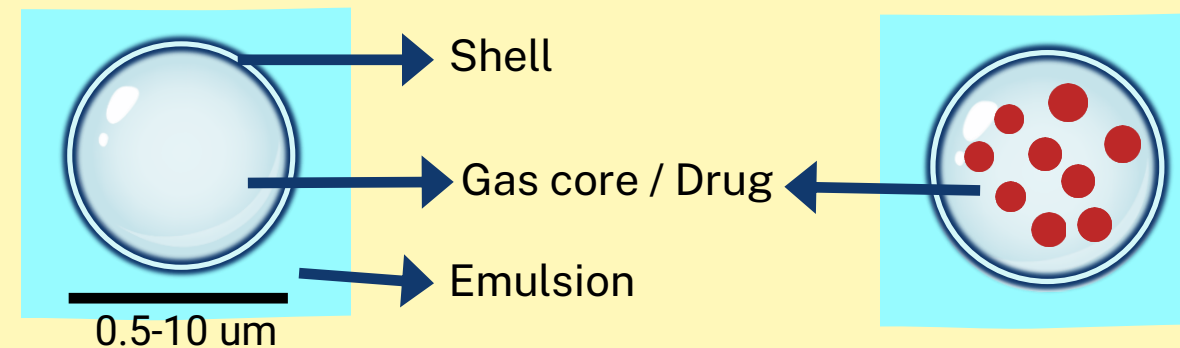
Cavitation in action : Microbubbles for Improved Root Canal Disinfection and Drug Delivery

Introduction

- Root canal disinfection is challenging due to complex anatomy and resilient microorganisms.
- Combining Microbubble Emulsion (ME) with ultrasound or laser energy enhances cleaning efficacy and improves intracanal drug delivery; potentially increasing success rates in endodontic treatment.

Materials

- Microbubbles, are gas-filled bubbles in the micron range (0.5-10 μm) produced in an emulsion.



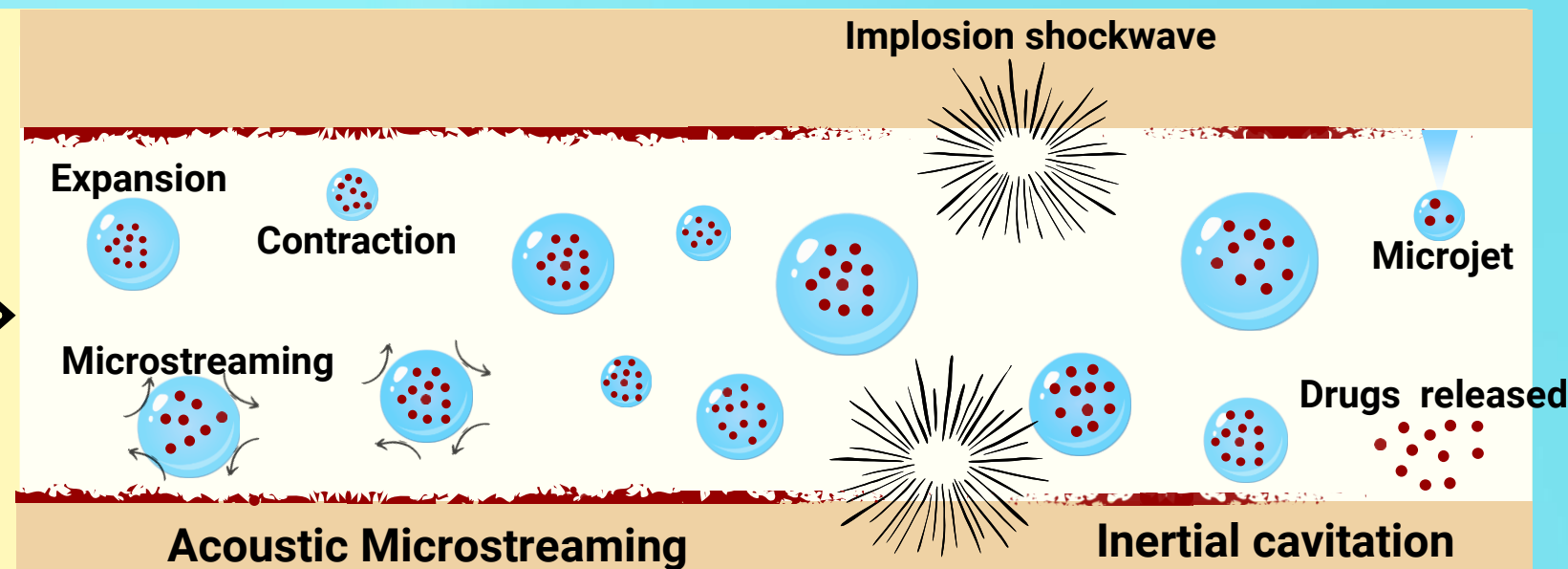
Advantage

- Enhanced acoustic effects
- Reactive Oxygen Species (ROS) production
- Improved photodynamic action
- Targeted drug delivery

Method

Activation of
microbubble emulsion

by Ultrasound /Laser
energy



Challenges

- Improving the microbubble's stability
- Enabling the chairside availability.

