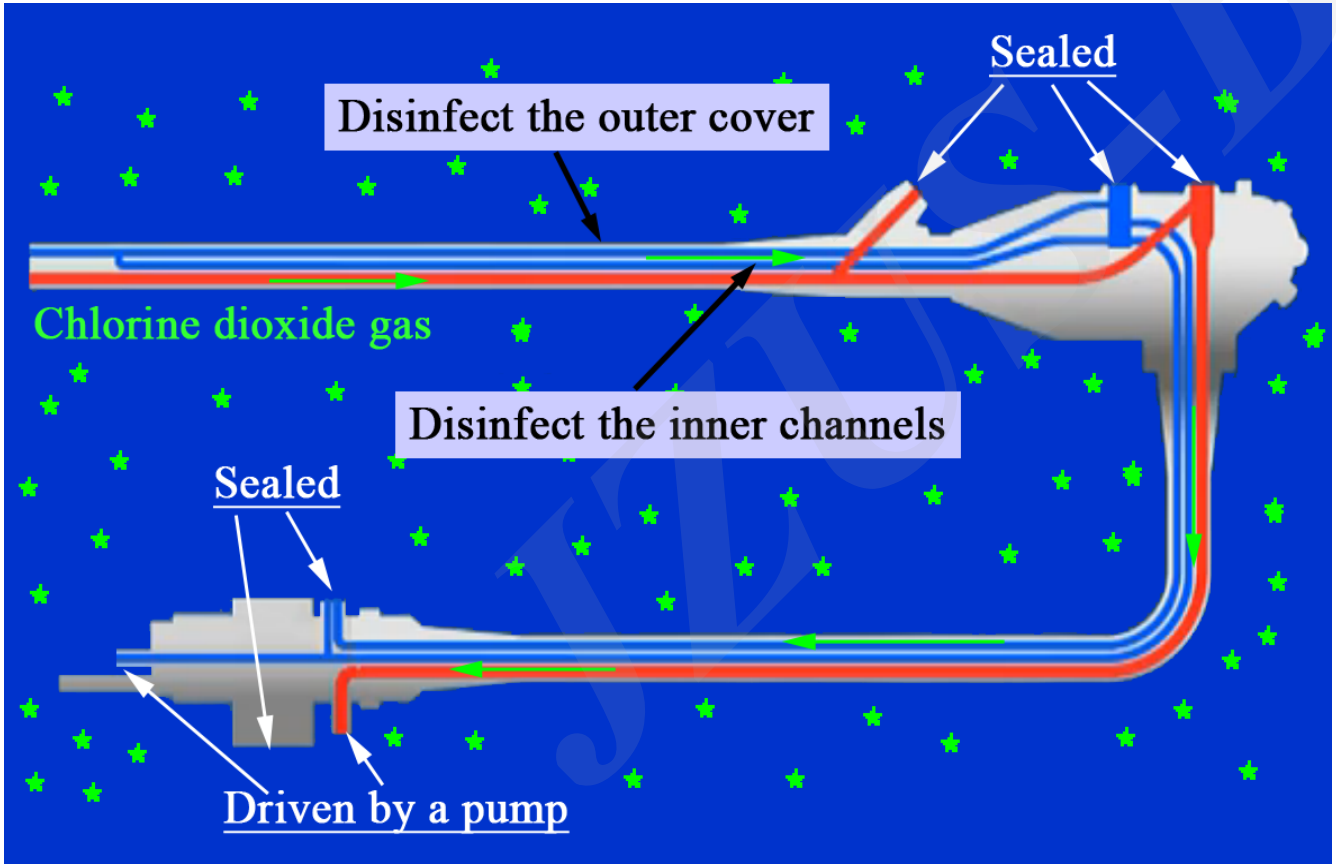
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A pilot study on using chlorine dioxide gas for disinfection of gastrointestinal endoscopes

Key words: ***Bacillus atrophaeus*, Chlorine dioxide, Gaseous disinfectant, Gastrointestinal endoscope, Long and narrow channel**

Research Summary

The main objective of this pilot study is to evaluate the feasibility of employing chlorine dioxide gas to disinfect gastrointestinal endoscopes.



Basic idea of disinfecting an endoscope using chlorine dioxide gas

Chlorine dioxide gas:

Registered sterilant

High efficacy for killing bacterial spores

Lower cost than *ortho*-phthaldehyde

Innovation points

- **Designs** **of a testing device composed of PTFE tubes and bacterial carrier containers, and an experimental prototype with an active circulation mode for disinfection of gastrointestinal endoscopes.**

- **Evaluation** **of the disinfection efficacy of CD gas on *Bacillus atrophaeus* spores inside a long and narrow PTFE lumen.**

Influence factors	Value variation of the factors	Sporicidal activity of CD gas for the lumen
Relative humidity	↑	↑
Dosage (concentration by time)	↑	↑
Flow rate through the channel	↑	↓

PTFE: polytetrafluoroethylene, CD: chlorine dioxide