

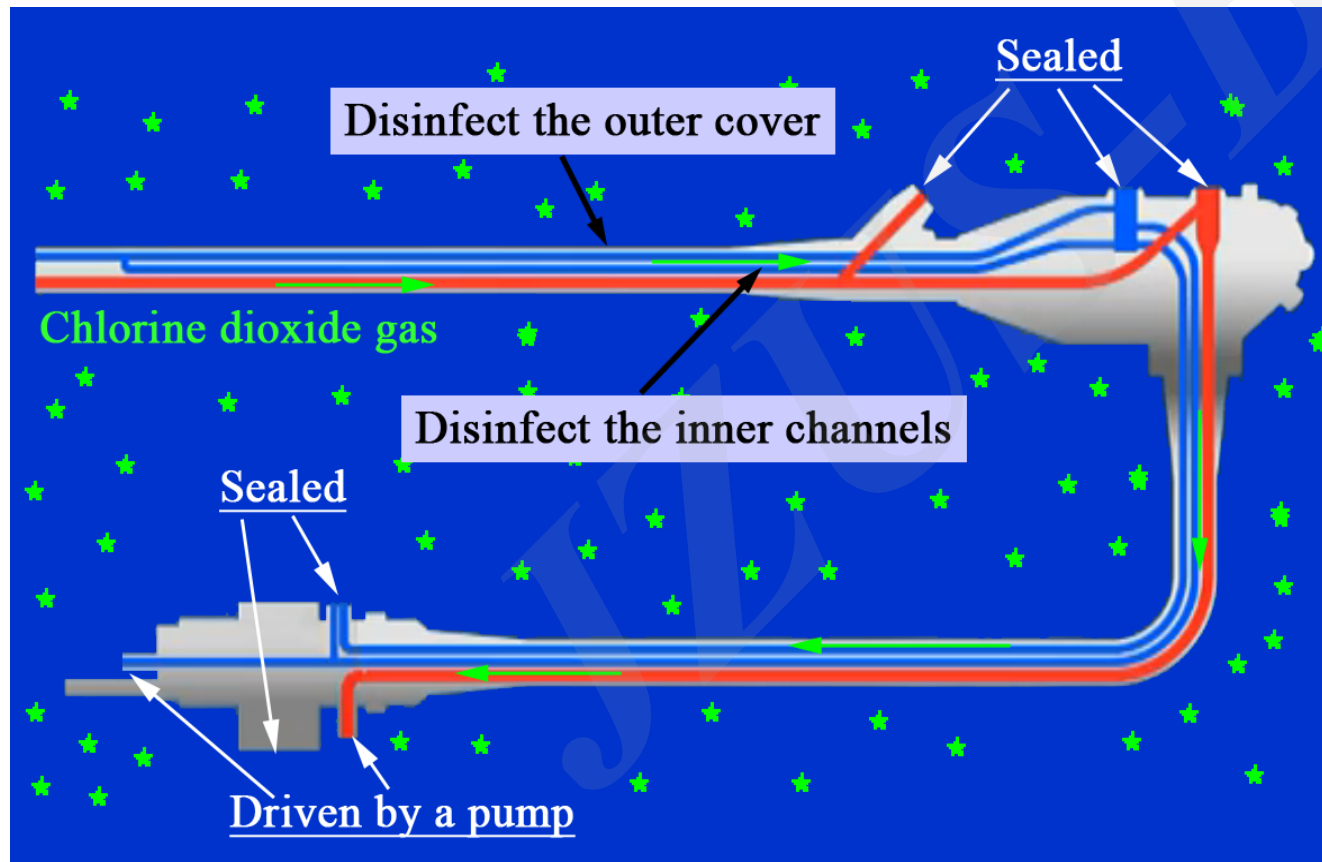
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# A pilot study on using chlorine dioxide gas for disinfection of gastrointestinal endoscopes

**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.



**Chlorine dioxide gas:**

Registered sterilant

High efficacy for killing bacterial spores

Lower cost than *ortho*-phthalaldehyde

Basic idea of disinfecting an endoscope using chlorine dioxide gas

# ***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	↑	↓