

The disinfecting effect of ozone on four kinds of bacteria.

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PURPOSE: To evaluate the disinfecting effect of ozone on 4 kinds of bacteria: *Staphylococcus aureus*, *Streptococcus mutans*, *Staphylococcus epidermidis* and *Streptococcus pneumoniae*.

METHODS: The concentration of ozone that was transmitted by ozone generator at different time was determined by using iodine titrimetric method. According to the bactericidal assay of quantitative vehicle, the bacteria on the ozonized vehicles and unozonized vehicles was washed, 50 microl eluant was seeded on the TSA plates. The TSA plates were put into the anaerobiotic incubator (90% N₂, 10% CO₂, 37 degrees centigrade). After 24 to 48 hours, the CFU on the plate was counted. The data was analyzed by one-way ANOVA with SAS 6.12 software package.

RESULTS: The sterilization effect depended on the ozone concentration and the treatment time. When the 4 kinds of bacteria were treated with 2.73 mg/L ozone for 45 minutes, there was no bacteria alive.

CONCLUSIONS: Ozone has obvious disinfecting effect on the 4 kinds of bacteria and the effect is correlated with the concentration of ozone.