AUTOBIN
AUTOCLAVE + INSTRUMENT BIN

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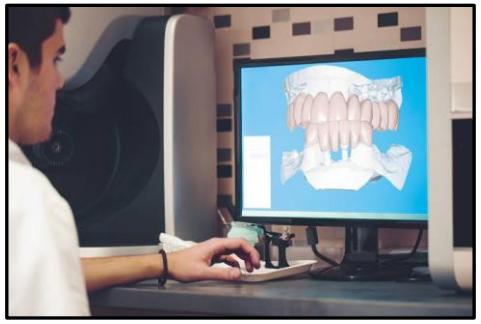
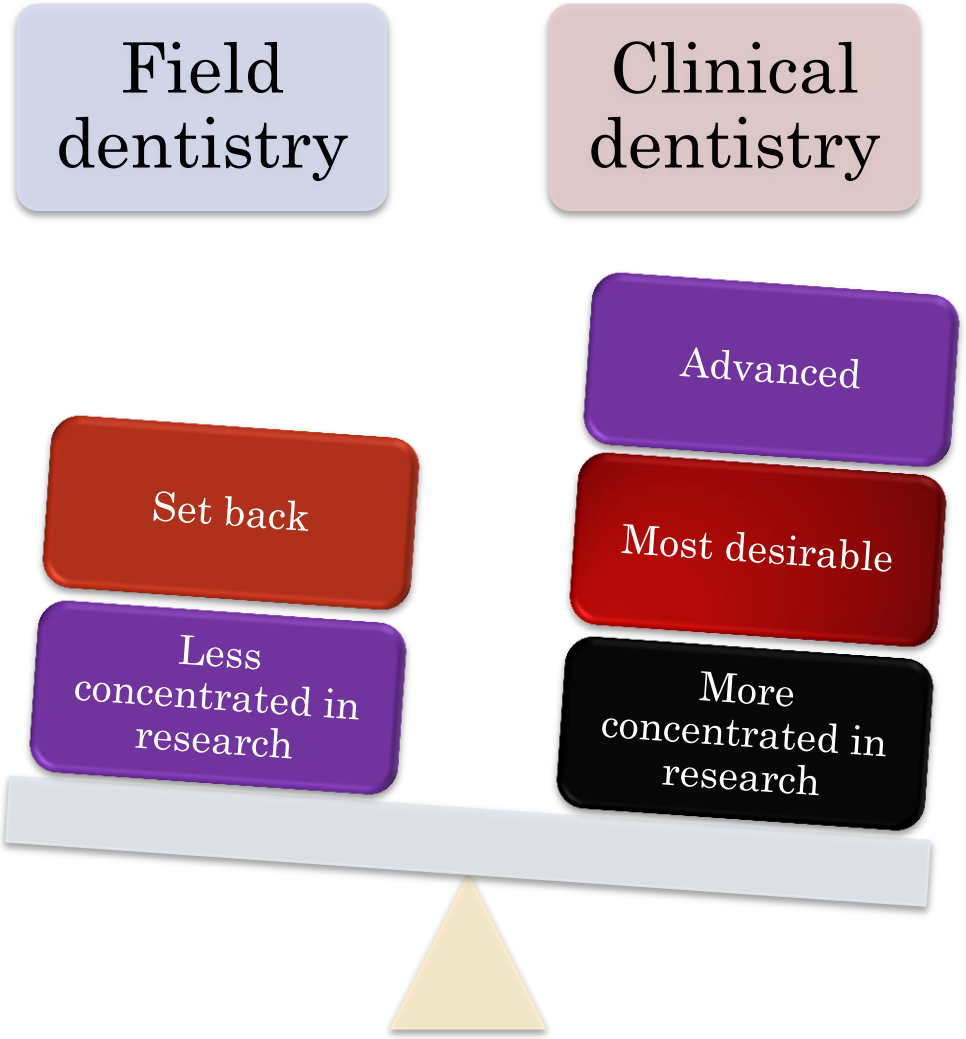
Introduction

- Though we have achieved milestones in dentistry using technology, there are few set backs I have personally experienced as a public health dentist
- During dental camps, we have experienced instruments shortage when sometimes we had to treat a lot of patients than expected
- This had led me thinking into inventing a new device for sterilizing in a simpler way

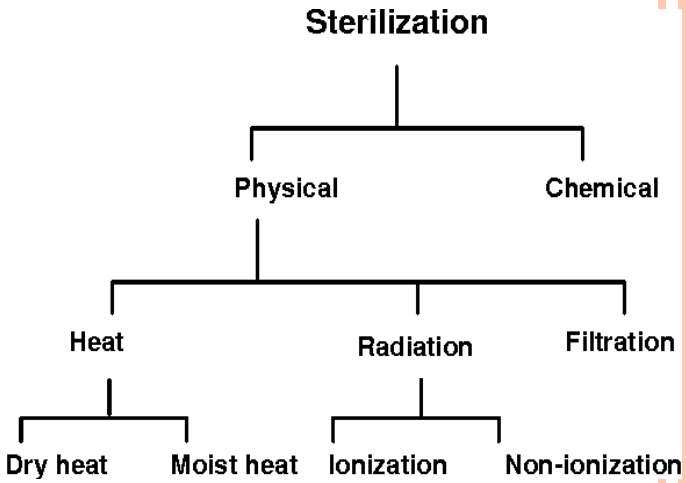


Introduction



Introduction

- Sterilization refers to any process that removes, kills, or deactivates all forms of life and other biological agents present in a specific surface, object or fluid, for example food or biological culture media
- **Autobin** works in the principle of moist heat sterilization



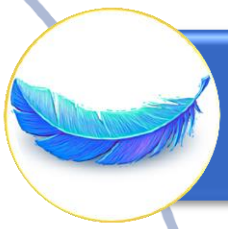
Rationale / Need for device

- Carrying multiple sets of instruments can be a big task during public health camps and medical in field set ups.
- Cross infection risking patient's health

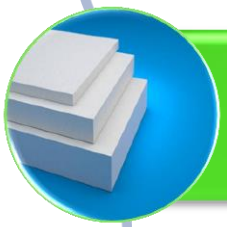
AIM

- The aim of the invention is to make use of the dental instruments again in the field by sterilizing them and to carry less instruments

Materials and Methods

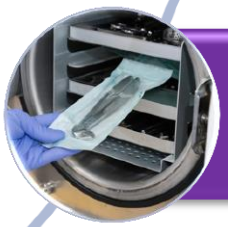


30 times lighter with SS alloy



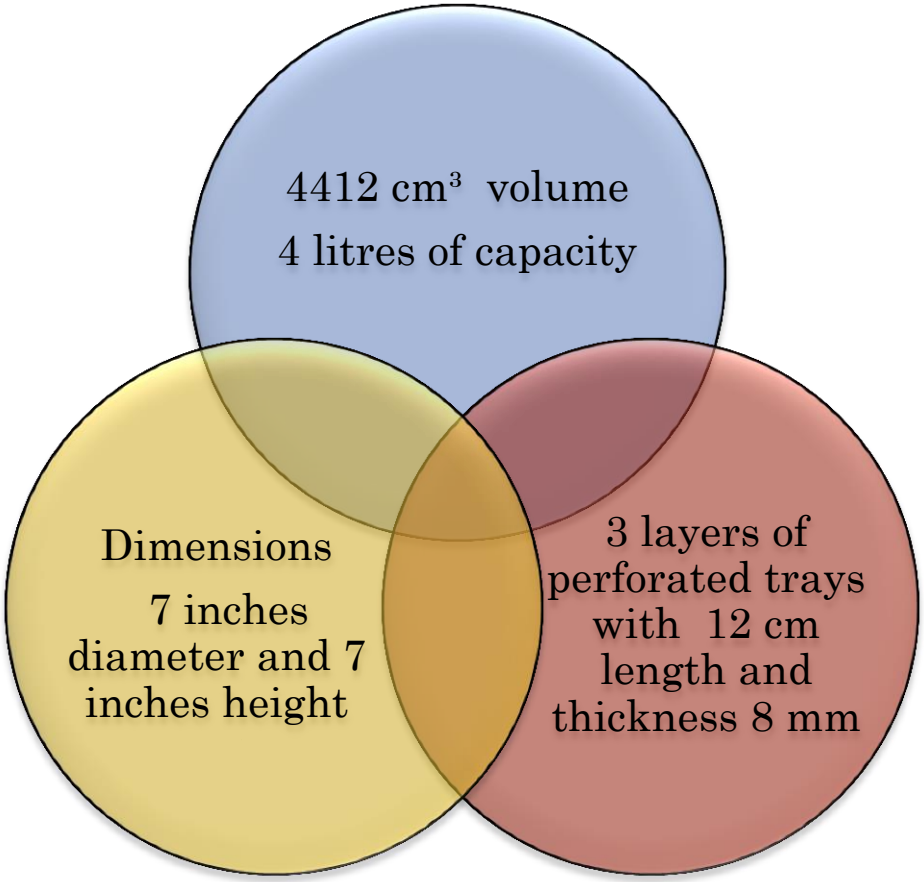
Styrofoam for heat protection

Upper part of instrument bin – mini autoclave with charging cable with 3 layers of perforated trays

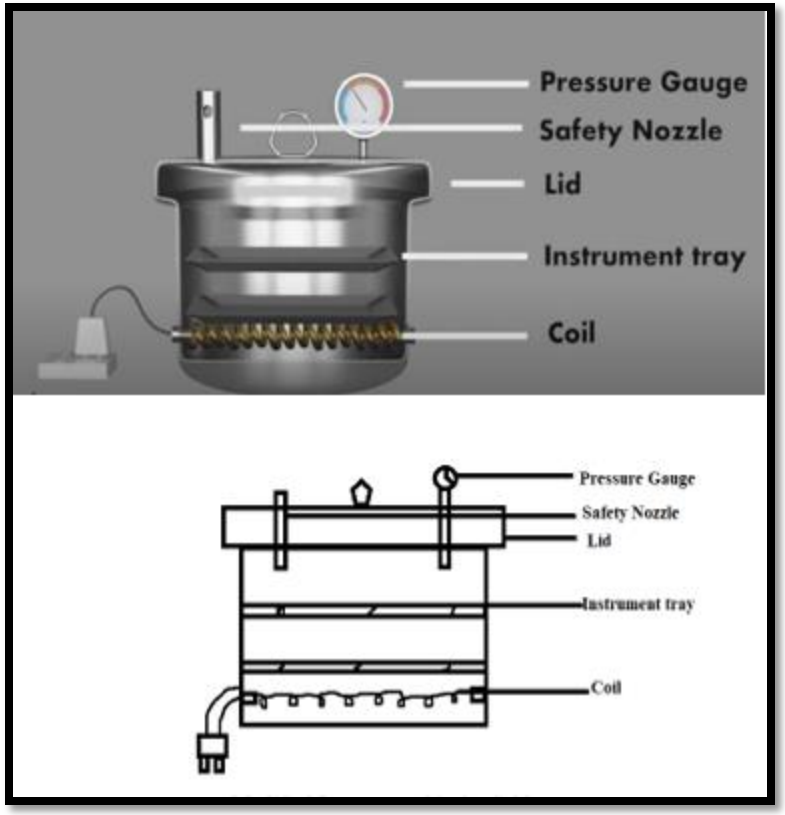


The invention reheats the instruments and sanitizes it in the instrument bin itself

SPECIFICATIONS



Parts of Autobin



Mechanism of autobin

- The autobin works on the principle of moist heat sterilization where water when heated above 100°C for 15 – 20 minutes produces steam which under pressure is used to sterilize the material present inside the bin
- When this steam comes in contact on the surface, it kills the microbes by giving off latent heat.
- The condensed liquid ensures the moist killing of the microbes.

Indications of autobin

- Dental field instruments made of SS alloy,
- Borosilicate glass
- Polypropylene (PP) and polycarbonate (PC) plastics
- Culture dishes and related materials

Contraindications of autobin

- Materials containing solvents, volatile or corrosive, or flammable chemicals
- Material contaminated with chemotherapeutic agents or cytotoxic drugs
- Polystyrene (PS), polyethylene (PE), and high-density polyethylene (HDPE) plastics
- Household glassware

Advantages of Autobin

- Can screen / treat a lot of patients if the autobin is used
- Small size which makes it easy to carry to the camp sites
- Can carry less number of instruments for camps because of the re usage
- Simpler way of sterilization than autoclave

Limitations of autobin

- Less capacity – less instruments sterilized than conventional autoclave
- Accuracy of sterilization is not as ideal as autoclave

Conclusion

- In this COVID – 19 era, when infection spread is common and people are afraid to go through dental check-ups / treatments, a field instrument like this would highly help in eliminating the cross infection.
- It will be a breakthrough in the field dentistry if commercialised.

THANK YOU