



Enhancing Instrument Protection: A Strategy to Reduce Breakages in the Mini 5 Curette Set

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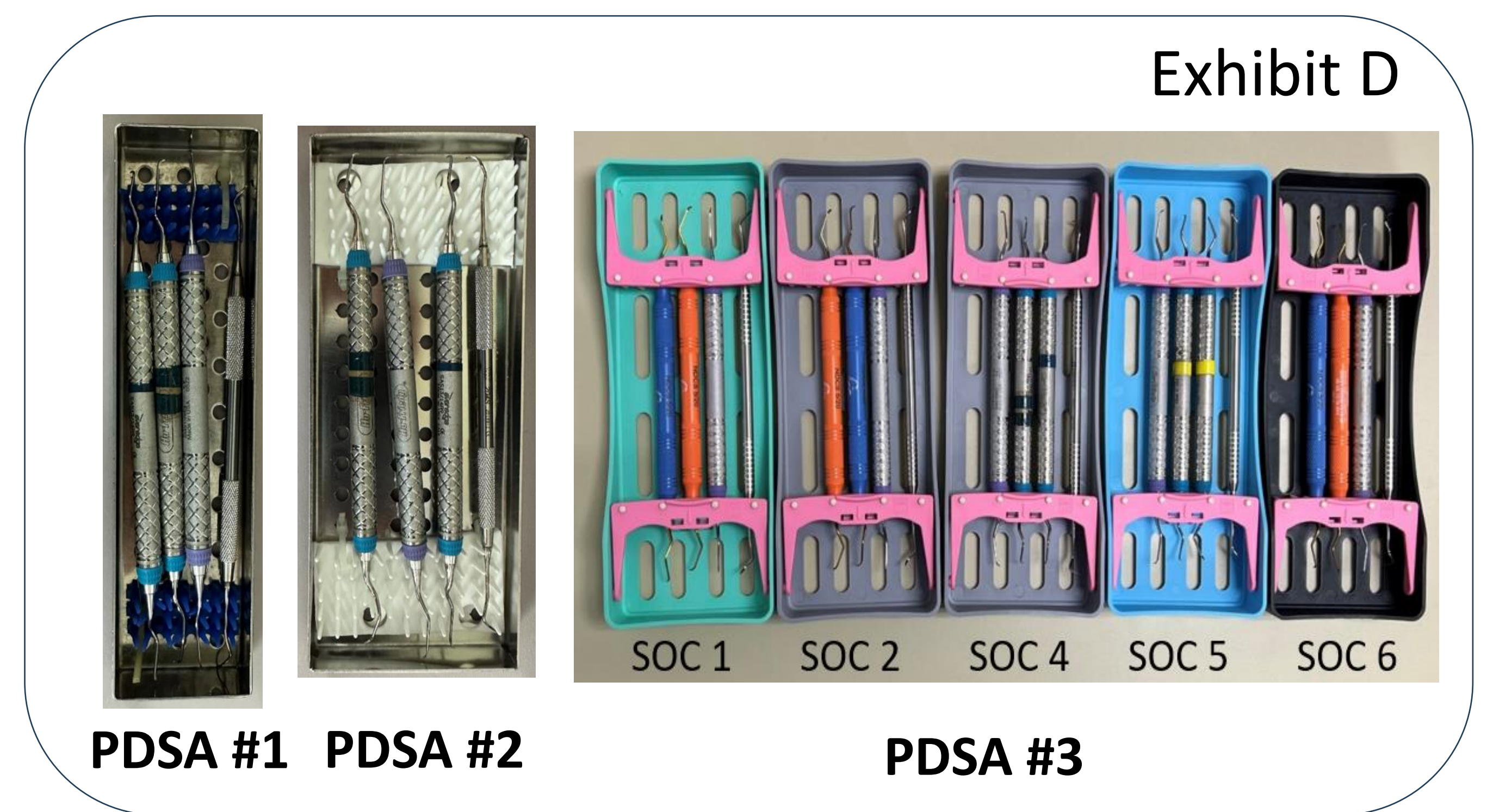
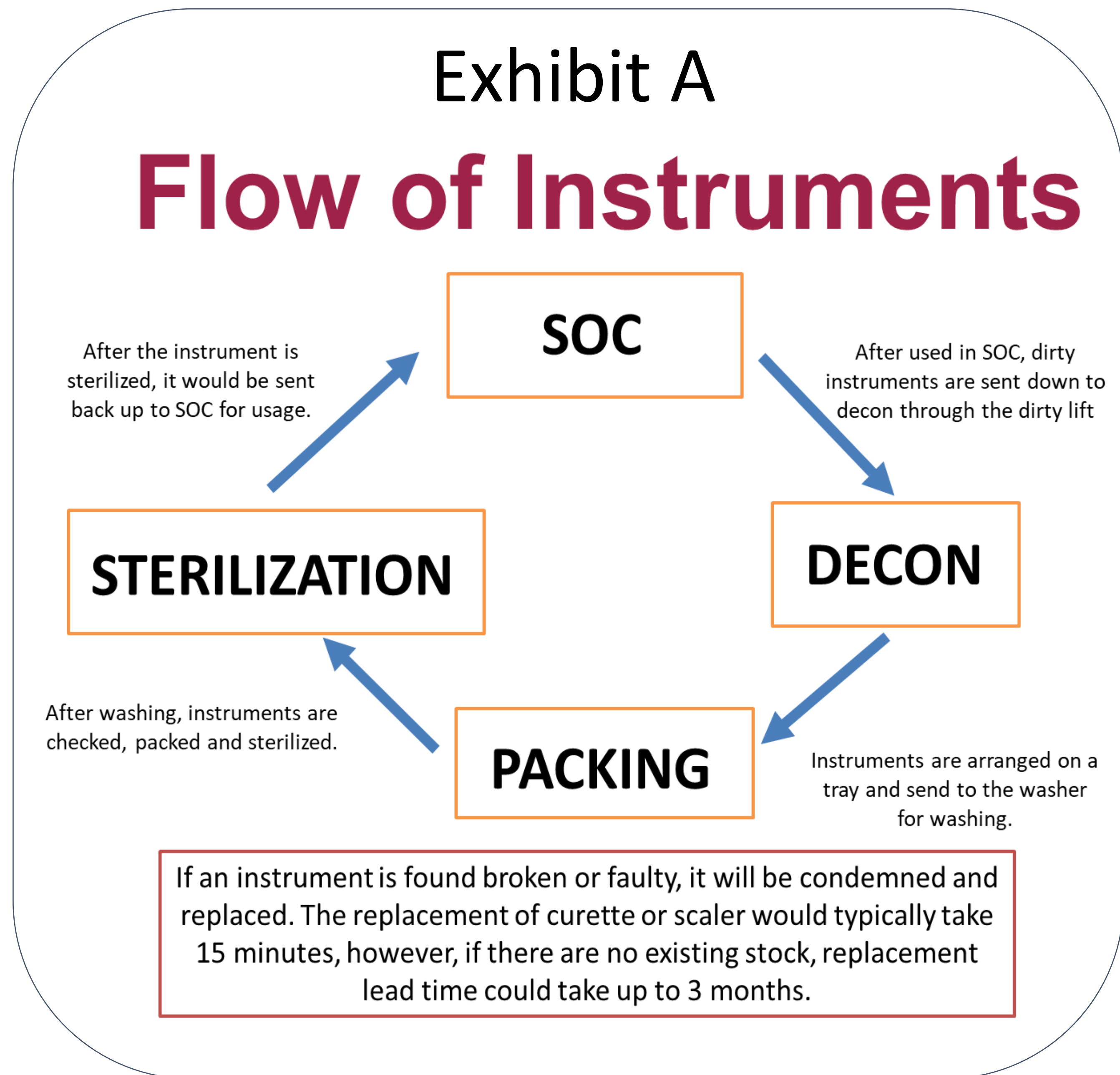
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Introduction:

The Mini 5 Curette Set consists of four reusable instruments and one disposable white tip. The four instruments consist of three different sizes of curettes and one scaler. All instrument tips at both ends are sharp and need to be protected properly to prevent it from getting damaged. It is commonly used in all of the different clinics. There are frequent breakages of these instruments, communicated to us by way of feedback forms. Exhibit A shows the flow of Mini 5 instruments within NDCS.

Interventions

- PDSA #1:** May 2022: Added silicone mat to the container to protect the sharp tips of the instruments
- PDSA #2:** Jul 2022: Broader containers & broader silicone mats were introduced
- PDSA #3:** Sep 2022: New containers were introduced that are able to secure the instruments in place



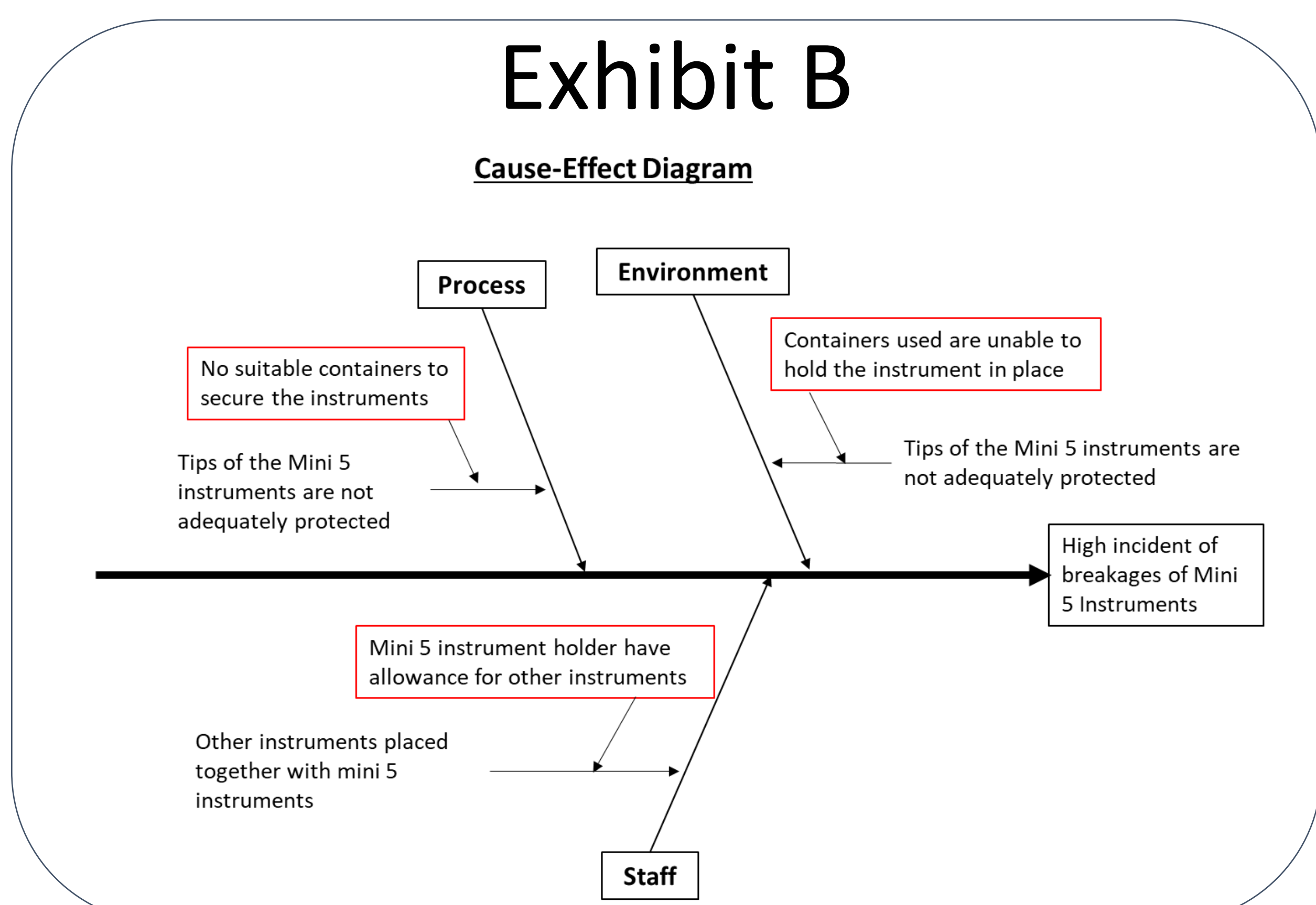
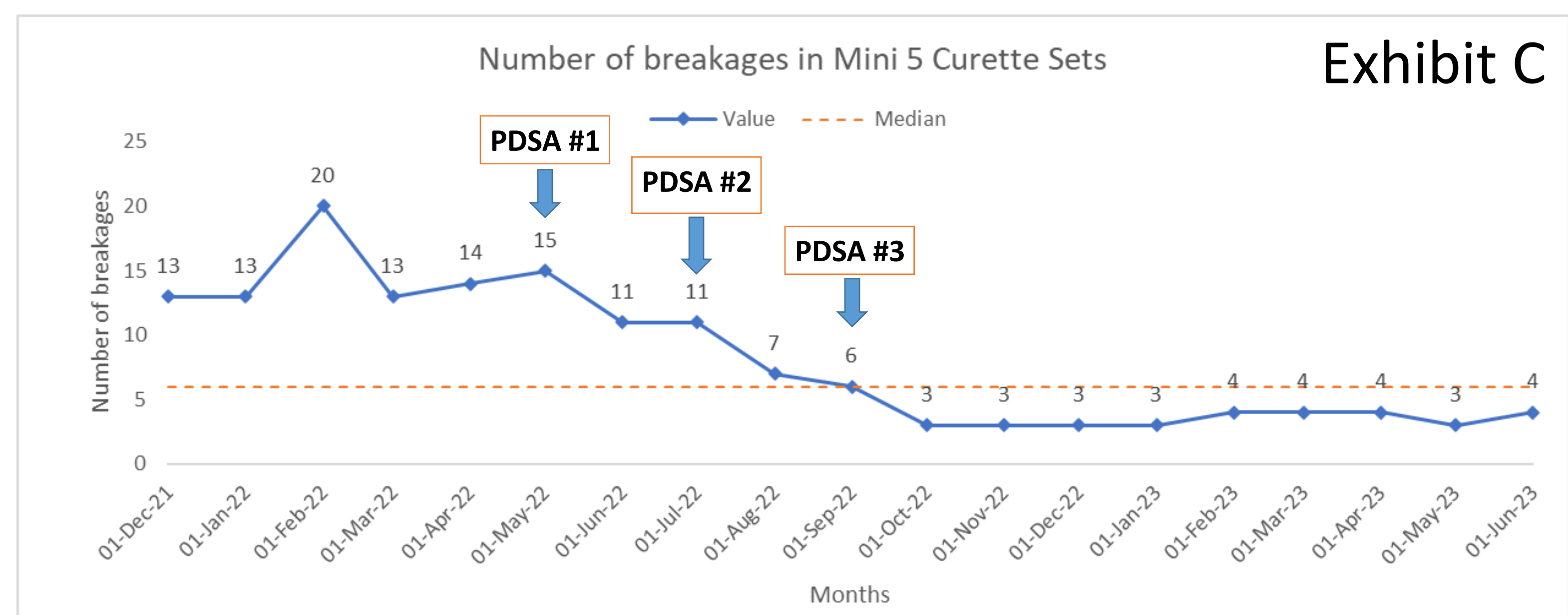
Results

After the 3rd PDSA, breakages of the Mini 5 Curette Sets fell from an average of 12 a month, to 4 a month (Exhibit C), translating to a 66% reduction in breakages. The average cost of the 4 instruments in a Mini 5 Curette set is $(\$60 + \$60 + \$60 + \$25)/4 = \$51.25$. This translated into replacement cost savings of at least \$4,920 projected annually, post-PDSA #3.

Root Cause:

The team came up with a Cause-&Effect diagram (Exhibit B) to identify potential root causes and below are the root causes shortlisted.

- 1) Containers are not designed to hold sharp instruments and are too narrow
- 2) Containers are not designed to secure the instruments
- 3) Mini 5 instrument holder have allowance for other instruments



Conclusion

The team achieved the mission of the project, and the rate of breakage fell by at least 66% (Exhibit C). Proper storage of instruments for transportation and sterilization greatly reduced instrument breakages. The team will further assess if this can be replicated to other commonly used instruments that experience high incidence of breakages.