FINDING A NEEDLE IN A HAYSTACK:

EVALUATION OF A NEW MEDICAL DEVICE TO FIND LOST SURGICAL SHARPS

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INTRODUCTION

- The frequency of retained surgical sharps (RSS), a never event, is increasing.
- Locating the most common RSS, a suture needle, is limited by x-ray with poor sensitivity < 17mm and cannot be used simultaneously during the search.
- We hypothesize a new surgical device (Sharps Finder – Figure 1) is effective in detecting RSS in two clinical scenarios of RSS.

METHODS

Scenario 1

- A 13mm needle (without suture) was dropped into a 5”x5”x2" container with 10g of hay and placed in a laparoscopic trainer box.
  - Users (three PGY-4 surgical residents) were randomized to the control (laparoscopic grasper) or device group and given up to 5 minutes to locate the needle. Time to locate (TTL) was recorded.

Scenario 2

- Using the same apparatus, users were blinded to the presence or absence of the needle in the container.
  - Users were randomized to the control or device group and given up to 5 minutes to decide if the needle was present. Reporter accuracy and the time to decide (TTD) were recorded.

RESULTS

		Control Group	Study Group	P value
Study 1 (n=101)	Rate of identification (%)	22.0% (11/50)	98.1% (50/51)	P < 0.001
	Time to identification (min)	3.34 ± 1.28	1.64 ± 1.12	P < 0.001
Study 2 (n=68)	Accuracy of report (%)	58.8% (20/34)	100% (34/34)	P < 0.001
	Time to report (min)	4.89 ± 0.63	1.69 ± 1.43	P < 0.001



Sharps Finder™ Device

CONCLUSION

- The Sharps Finder improved the device group’s ability to identify RSS and rule out the presence of RSS.
- This device addresses the standard surgical issues of poor visualization, narrow optics, large heterogenous space and increased the probability successfully identifying RSS.