

# INFECTION CONTROL AND HOSPITAL EPIDEMIOLOGY<sup>®</sup>

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## Letters to the Editor

### Dumpster Diving in Sharps Disposal Containers: What's Really Inside?

#### To the Editor:

Sharps injuries have plagued healthcare workers (HCWs) since needles were invented, but it was not until the human immunodeficiency virus pandemic that many HCWs took these risks seriously. Until relatively recently, intervention strategies have focused almost exclusively on not recapping used needles as the major strategy to reduce injury risks. This approach historically is based largely on a study conducted at the University of Wisconsin from 1975 to 1979.<sup>1</sup> Almost 20% of injuries reported in that study occurred during needle disposal or while recapping used needles. The investigators believed that installation of more and better needle disposal units, combined with education regarding the risk of recapping, would result in a reduction of injuries from those practices. A 14-

year follow-up study<sup>2</sup> found that sharps injuries had not declined with the emphasis on proper disposal and eliminating recapping; in fact, there was a 3.5-fold increase in recapping injuries, and there were over three times as many total injuries per 1,000 HCWs as reported in the 1975 to 1979 period. These investigators concluded that the greatest impact in reducing sharps injuries in HCWs might be by innovative technology-based approaches, but cautioned that most new devices needed critical analysis using epidemiologic methods. As part of a study at the University of California, San Diego Medical Center-Hillcrest Emergency Department to evaluate a safety syringe,<sup>3</sup> we examined the contents of sharps disposal containers and noted the proportion of needles that were recapped.

In the Emergency Department, 14-quart sharps disposal containers were attached near each of the 17 beds, either on the headwall or above the bedside sink counter. Each of the 12 examination rooms also had at least one intravenous-start/blood col-

lection caddy that included a 1.4-quart sharps disposal container. Additional sharps disposal containers were in other strategic locations.

Each day during the study, a member of the study team visited the Emergency Department and replaced any container that was two-thirds to three-fourths full with a new container. Full containers then were filled with a 1:10 solution of sodium hypochlorite and allowed to soak for at least 24 hours. Containers were drained of liquid, and contents were emptied onto a large table in the medical center's trash room. Members of the study team sorted items with long tongs while another team member recorded item counts. Counted contents were discarded as biohazardous waste, in accord with policy.

Data were recorded on a standardized data sheet and input into Epi Info 6.0 (Epi Info, version 6.0, Centers for Disease Control and Prevention, Atlanta, GA) for analysis.

A total of 39 14-quart and 54 1.4-quart sharps disposal containers were collected during the 38-day period. Over 6,800 needled devices were dis-

**TABLE**

NUMBERS AND TYPES OF NEEDLED DEVICES IN SHARPS DISPOSAL CONTAINERS FROM THE UNIVERSITY OF CALIFORNIA SAN DIEGO MEDICAL CENTER-HILLCREST EMERGENCY DEPARTMENT, JULY 18 TO AUGUST 24, 1994

Device	Total Used*	Recapped	Uncapped	Percentage Recapped
3-cc safety syringe <sup>†</sup>	390	50*	340	12.8
50/60-cc syringe	123	29	60	23.6
20-cc syringe	162	33	89	20.4
10-cc syringe	790	149	433	18.9
5-cc syringe	732	177	445	24.2
3-cc syringe	636	196	351	30.8
1-cc syringe	281	115	135	48.0
Loose needles	1,357	932	425	68.7
Angiocath stylette	744	79	665	10.6
Blood collection needle	597	431	166	72.2
Spinal needle	114	31	83	27.2
Cartridge with needle	621	170	451	27.4
"Butterfly" needle	306	NA <sup>‡</sup>	NA	
Totals	6,853	2,392	3,643	35.0

Abbreviation: NA, data not recorded, although the majority were not capped.

\* Total used may not equal number recapped plus number uncapped, as some syringes were discarded without needles attached.

<sup>†</sup> See McCormick RD, Maki DM<sup>1</sup> for description of this device.