

# A CLEAN CATCH

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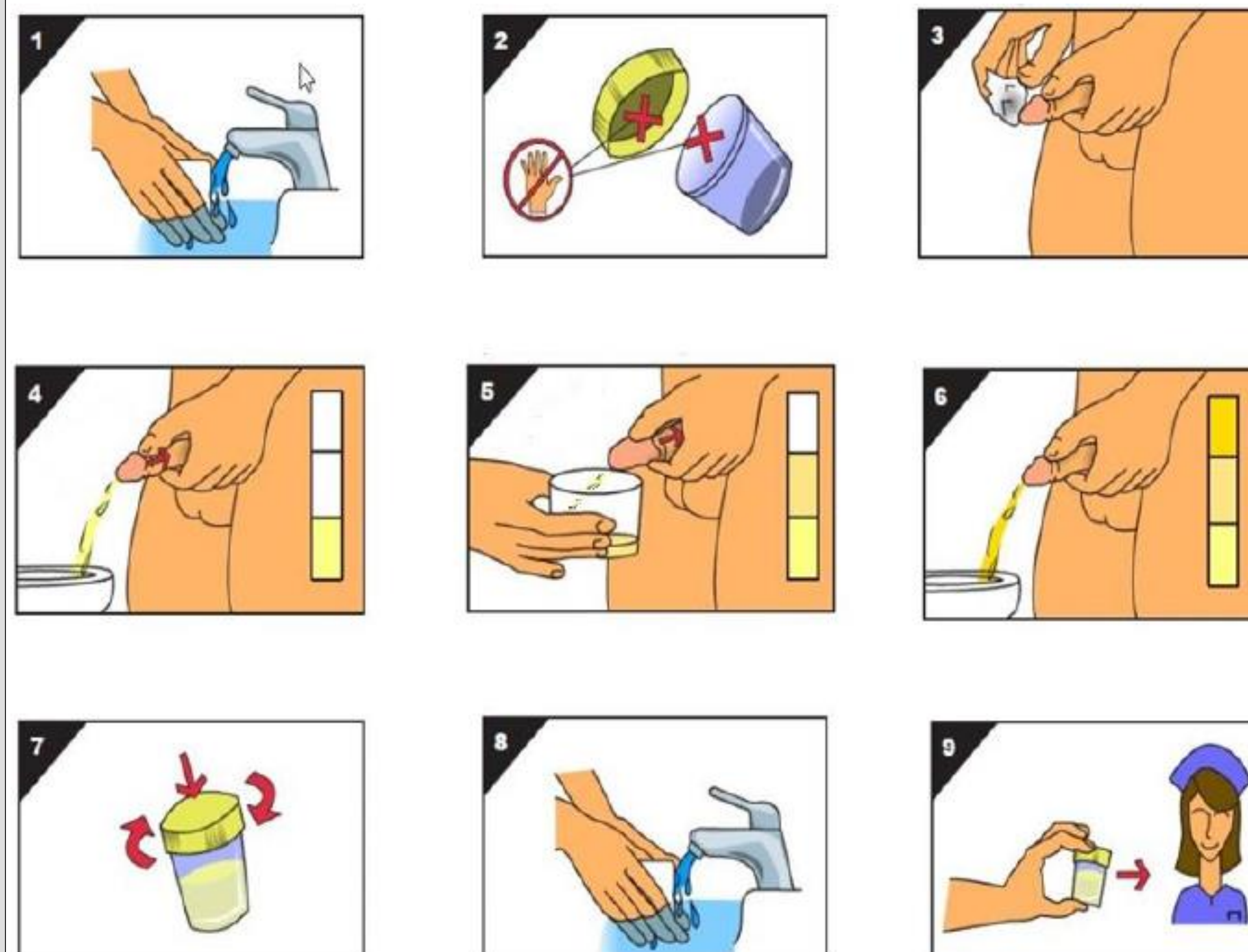
## Urine Sample Quality

- >5 squamous = contaminated urine
- Contaminated samples to lab wastes time and resources and delays care of all patients
- Literature is mixed on utility of supplemental instructions
  - A published study has demonstrated illustrations improved UA quality in female populations. (3)
  - Another study demonstrated that a mobile application did not. (4)
  - A third study demonstrated written instructions did not improve quality of urine samples. (2)

## Intervention

- Validated posters were obtained (see acknowledgements)
- The posters displayed how to correctly self-collect a clean catch urine sample.
  - One poster for patients with a vagina
  - One poster for patients with a penis.
  - The posters contained only illustrated pictures and numbers 1-9, no words.
  - Both posters were hung in each patient bathroom throughout the adult ED.
- The posters hung for the following six months.
- The population studied was adult ED patients presenting for any complaint requiring a UA.

## Posters



## HYPOTHESES

- Would guides (illustrations with minimal text) posted in the emergency department patient bathrooms significantly increase the frequency of quality urine samples?
- The primary author hypothesized guides would decrease the number of squamous cells if guides were concise and understood across languages.

## Results

The proportion of samples that had less than or equal to 5 squamous cells increased from 42.8% before the intervention to 46.4% after the intervention, an absolute increase of 3.6%.

This increase is significant at  $p < 0.001$

This extrapolates to about 300 more "clean" urine samples if applied to the number of qualifying UAs from 3/21-3/22.

## REFERENCES

- (1) Fisher, Linda A., T. Scott Johnson, Douglas Porter, Howard L. Bleich, and Warner V. Slack. "Collection of a clean voided urine specimen: a comparison among spoken, written, and computer-based instructions." *American Journal of Public Health* 67, no. 7 (1977): 640-644.
- (2) Maher, Patrick Joseph, Alisha Emily Cutler Brown, and Medley O'Keefe Gatewood. "The effect of written posted instructions on collection of clean-catch urine specimens in the emergency department." *The Journal of Emergency Medicine* 52, no. 5 (2017): 639-644.
- (3) Eley, Robert, Chantelle Judge, Lisette Knight, Goce Dimeski, and Michael Sinnott. "Illustrations reduce contamination of midstream urine samples in the emergency department." *Journal of Clinical Pathology* 69, no. 10 (2016): 921-925.
- (4) Jacob, Mary S., Paige Kulie, Cameron Benedict, Alexander J. Ordoobadi, Neal Sikka, Erika Steinmetz, and Melissa L. McCarthy. "Use of a midstream clean catch mobile application did not lower urine contamination rates in an ED." *The American Journal of Emergency Medicine* 36, no. 1 (2018): 61-65.

## ACKNOWLEDGMENTS

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