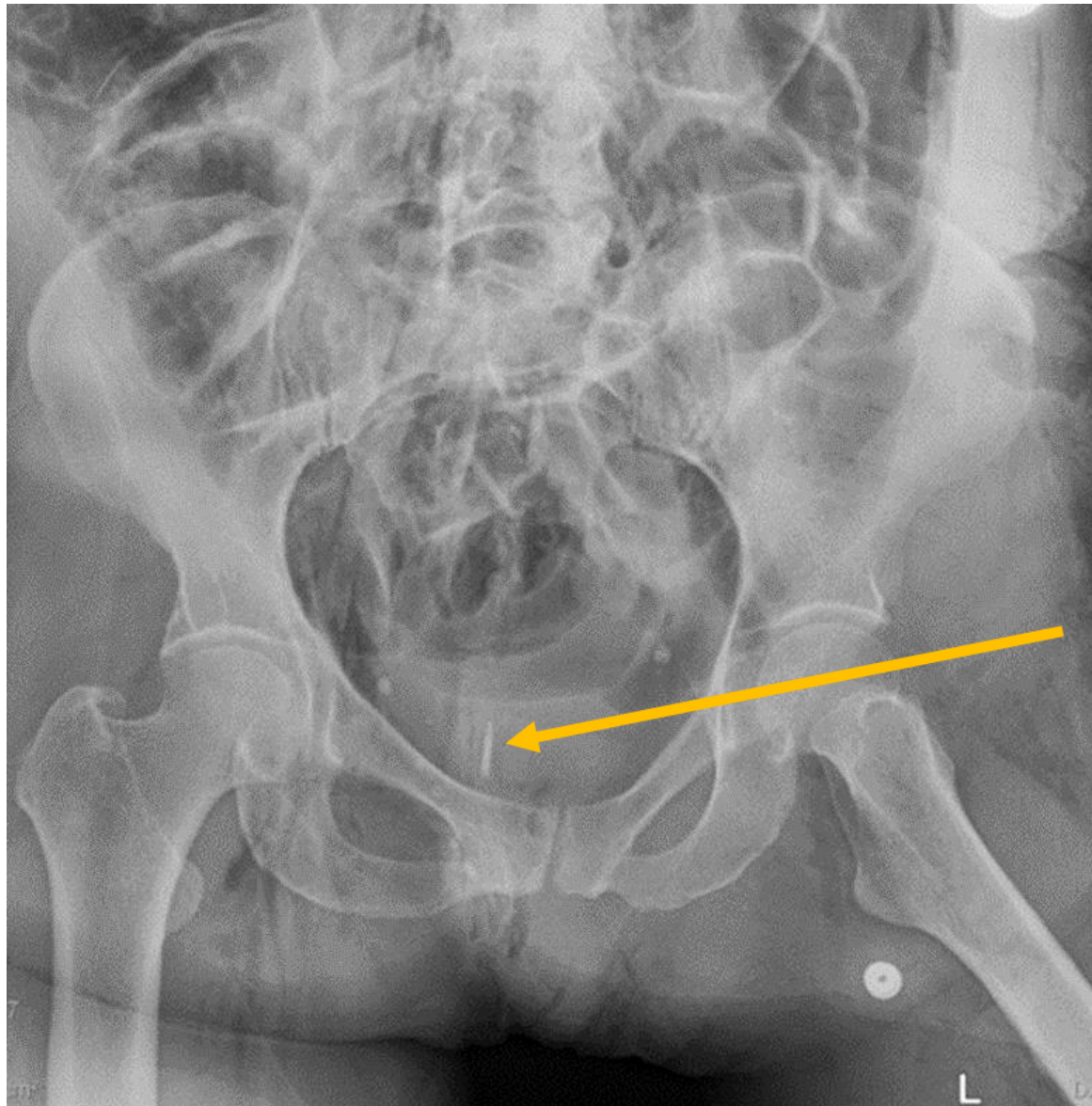




Case #30

NAME Educational Activities Committee



Case courtesy of Dr. Kayla Hoerschgen (PGY3, U. of South Dakota) and Dr. Kenneth Snell (Minnehaha County Chief Medical Examiner)

The decedent is a 50-year-old female with no significant past medical history discovered in a house fire. At autopsy she was found to have diffuse third- and fourth-degree burns as well as a carboxyhemoglobin level of 65%. What is the radiopaque item in the pelvis on the image?

- A. Artifact from the house fire
- B. Object in a back pocket
- C. Surgical marker/clip
- D. Intrauterine device
- E. Rectal foreign body

It should be noted that, based on the x-ray image alone, this theoretically could be any of the 5 options – but unfortunately we did not include an “All of the Above” response.

In reality, there is no way to say definitively what this object could be without looking closely at the body and the body bag. Given the orientation, the most likely location would be the uterus or rectum, but it could also be outside of the body, in the pockets, or in the body bag. The point of this case really is to make you think about the possible x-ray findings in a house fire.

So what was the answer?? The object turned out to be a rectal surgical endoclip.

A. Artifact from the house fire (7.11% responses)

Before the body is moved and thoroughly examined, debris from the house fire can appear on imaging. These could be behind or on top of the body, and include nails, staples, or any other materials from the house or furniture.

B. Object in a back pocket (7.33% responses)

If clothing is still present and intact, it is important to check the clothing and pockets for possible matching objects.

C. Surgical marker/clip (**CORRECT ANSWER**, 9.74% responses)

Endoclips, originally created over 40 years ago and since modified, are used during endoscopic procedures for various reasons. Originally, they were created as a hemostatic instrument for bleeding from a variety of conditions such as polypectomy sites, ulcers, Mallory Weiss tears, lesions and gastric tumors, to arteriovenous malformations, diverticula, small varices, and failed endoscopic thermal or injection therapy. With more modifications and popularization, the clips eventually were used to close small perforations that occurred during endoscopy. Additionally, they may be used at previous anastomotic sites if a small leak is discovered as well as to affix enteral tubes to the small bowel. Lastly, these clips may serve as markers for a prior polypectomy site, direct fundoscopic stent placement, and serve as a target for surgical treatment, interventional radiology, or radiation therapy.

D. Intrauterine Device (60.5% responses)

Given that the decedent was female, considerations for different surgical/medical interventions for the uterus, fallopian tubes, and ovaries should be considered. Most intrauterine devices (IUD) are larger than what was seen in this image. They are typically T-shaped or Y-shaped, whereas this object was not. The polyethylene frames may not show up very well on imaging, but the incorporated copper wire should.

E. Rectal foreign body (15.32% responses)

This was the correct location, and while the object was very small, it would also be a consideration.

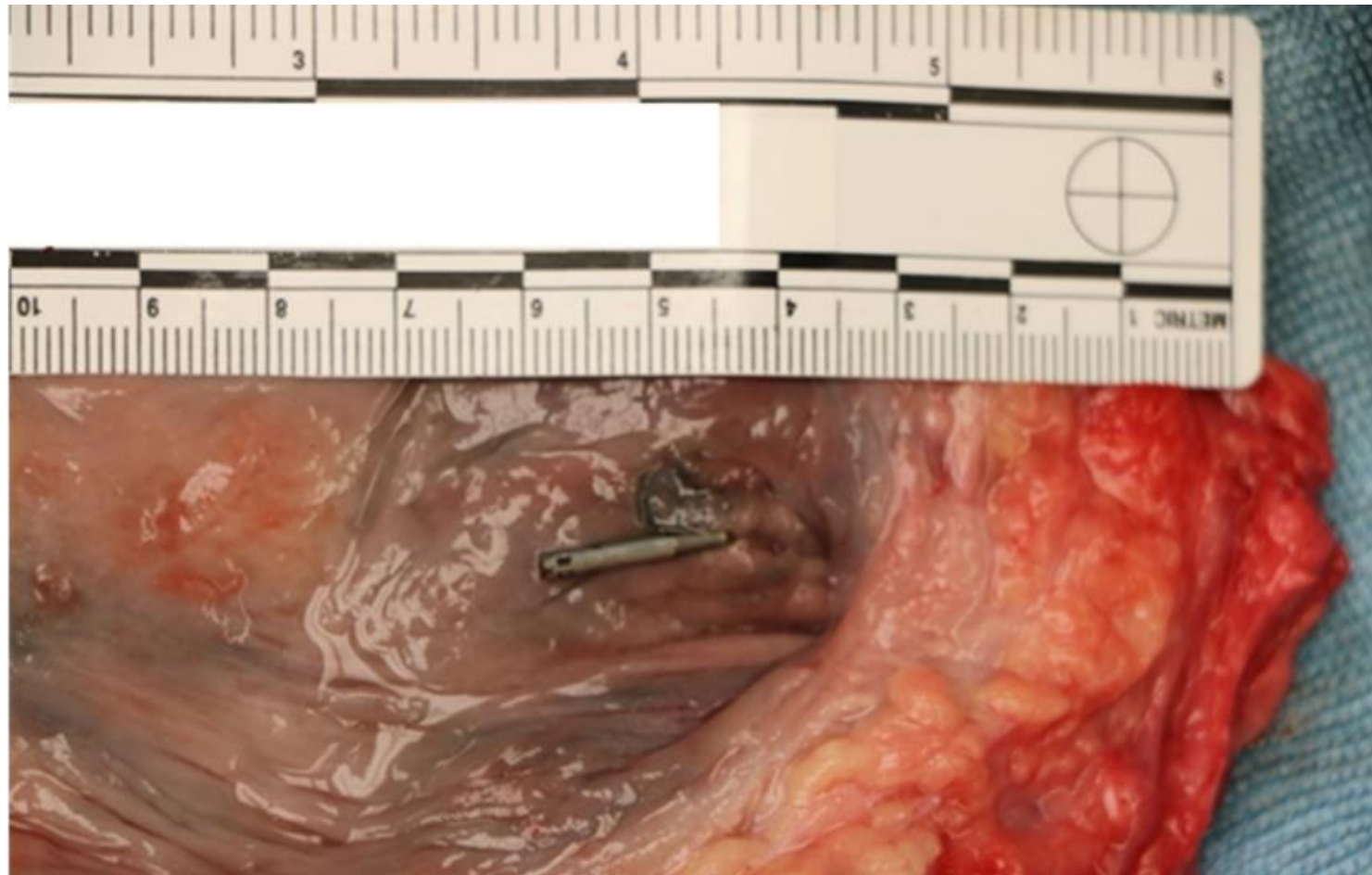


Image courtesy of Dr. Kayla Hoerschgen (PGY3, U. of South Dakota) and Dr. Kenneth Snell (Minnehaha County Chief Medical Examiner)

Example of the appearance of an intrauterine devices (IUD) on radiography



References:

Fyock CJ, Draganov PV. Colonoscopic polypectomy and associated techniques. *World J Gastroenterol*. 2010;16(29):3630-3637. doi:10.3748/wjg.v16.i29.3630

Yeh, Ronald W, Kaltenbach, Tonya, & Soetikno, Roy. Endoclips. *Techniques in Gastrointestinal Endoscopy*. 2006; 8(1):2–11. doi.org/10.1016/j.tgie.2005.12.002