

NEW TECHNIQUE FOR ANALGESIA DURING CRYONEUROABLATION

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May 2016

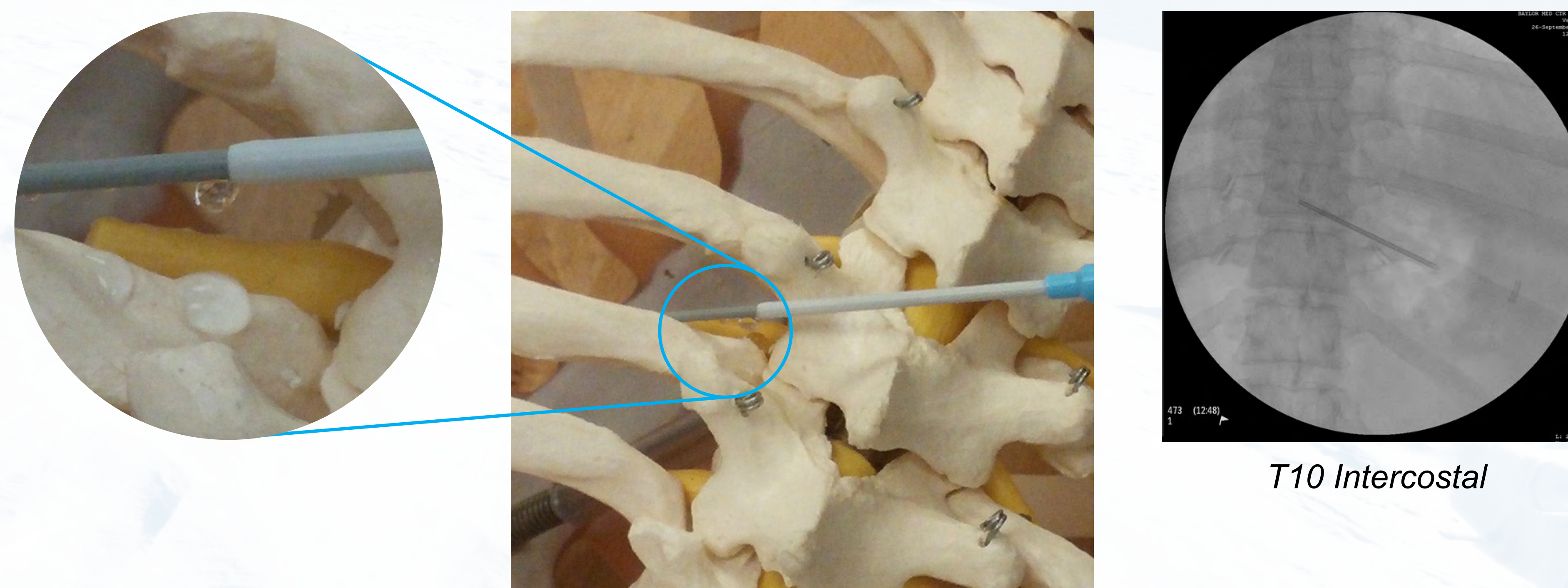
METHODS

We developed a side-port for the introducer, which allows the injection of local anesthetic at the tip of the probe without removing the probe.



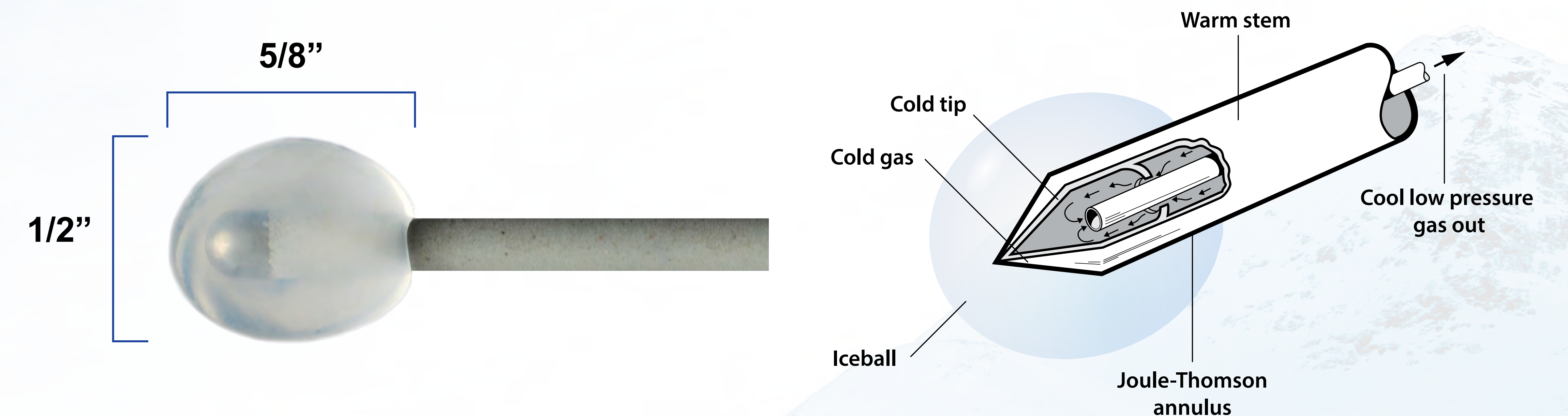
RESULTS

We placed the introducer and probe percutaneously on several cadaver structures (lumbar facet, cluneal nerve, intercostal nerve) under fluoroscopic guidance. Injection of contrast through the side port was confirmed by fluoroscopy to be on the target structure.



BACKGROUND

Cryoneuroablation is a technique of reversibly destroying nerves to treat pain. Unlike alcohol, phenol, or conventional radiofrequency, freezing kills the nerve without destroying its architecture, allowing the nerve to regenerate without neuroma formation.



An IV catheter is used as an introducer, which travels through the tissues more atraumatically. With ultrasound or fluoroscopic guidance, the built-in nerve stimulator allows the user to place the probe precisely on the nerve. Nitrous oxide expands inside the tip of the probe, dropping the tip temperature to -70°C . For the first 30 seconds, the severe cold can cause significant pain. Unfortunately, local anesthetic cannot be injected through the probe since the probe is not hollow, but the probe cannot be removed or replaced easily because of the flexibility of the introducer.

CONCLUSIONS

Using this new introducer, fluid could be delivered to the tip of the cannula. Studies are underway to compare the procedure pain perceived using the standard introducer vs. the new introducer.

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