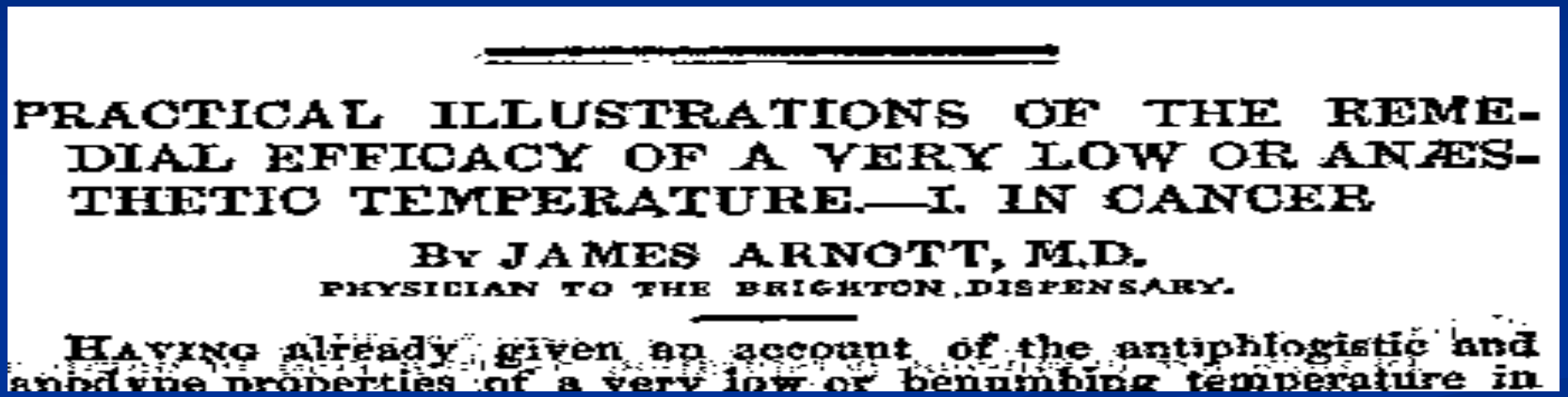
Salvage Cryosurgery – Post-Brachytherapy

John Davies, Royal Surrey County Hospital, Guildford UK

RSCH Guildford - 1998

History of Cryosurgery
1850



PRACTICAL ILLUSTRATIONS OF THE REMEDIAL EFFICACY OF A VERY LOW OR ANÆSTHETIC TEMPERATURE.—I. IN CANCER

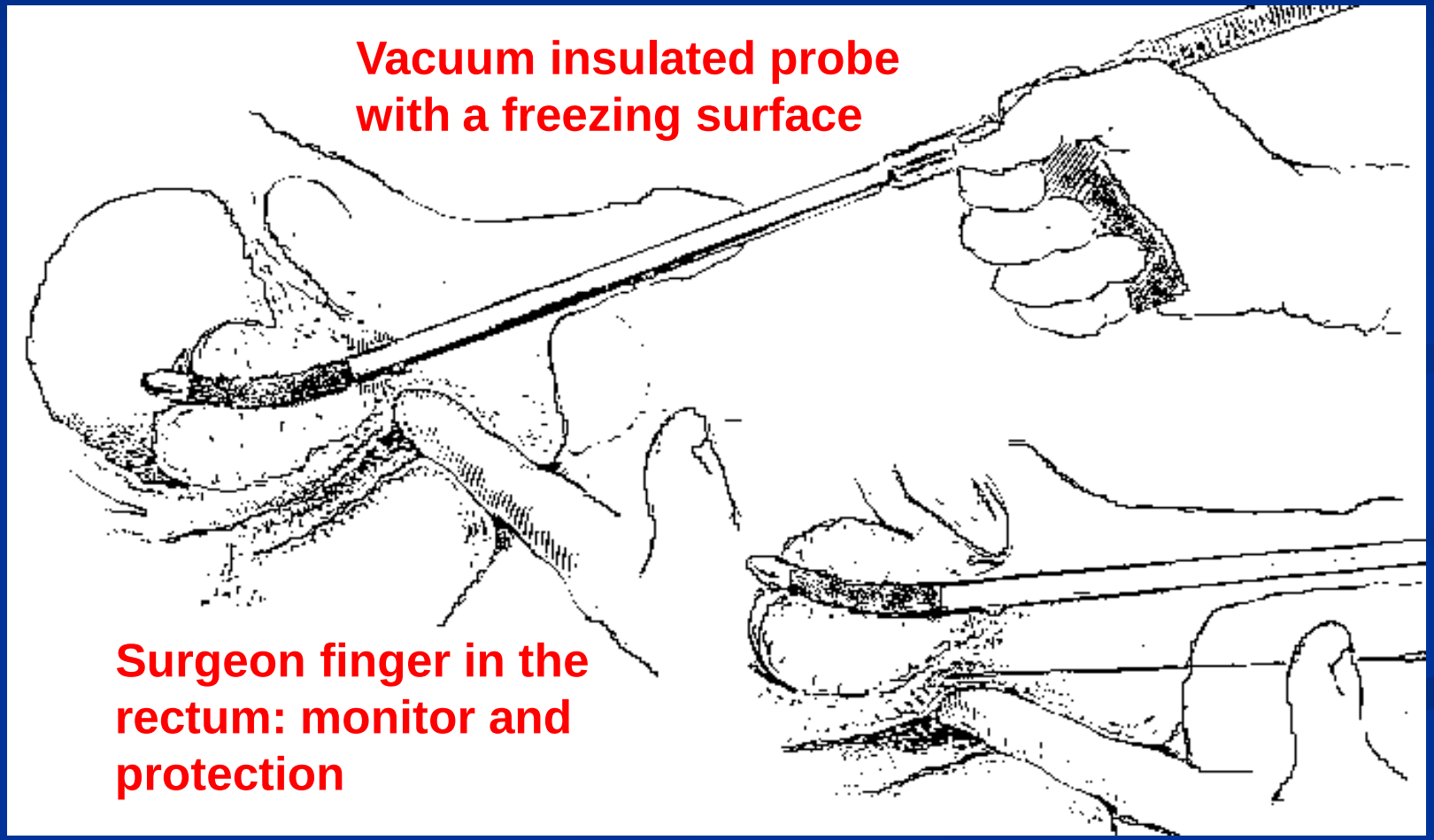
By JAMES ARNOTT, M.D.
PHYSICIAN TO THE BRIGHTON DISPENSARY.

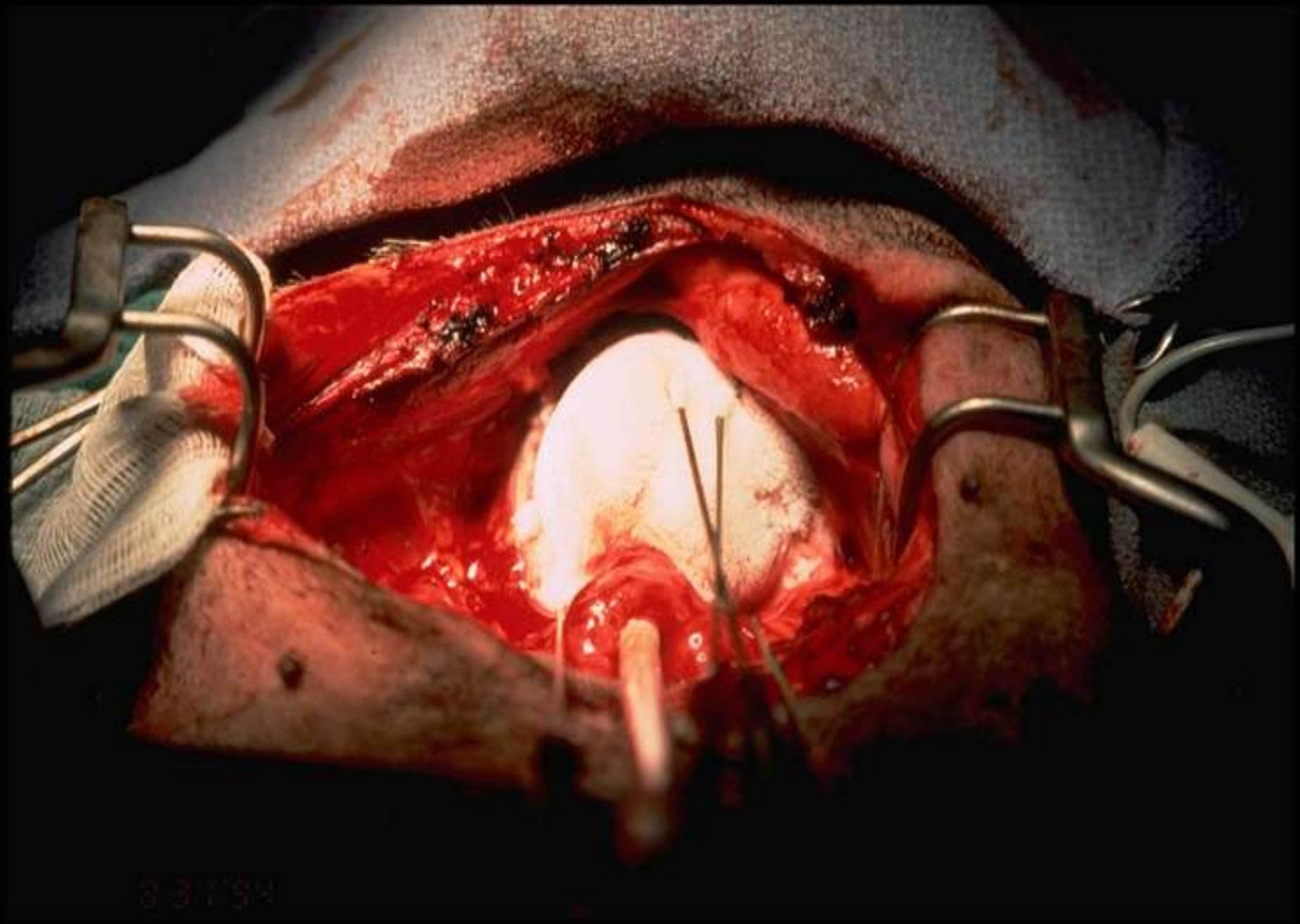
HAVING already given an account of the antiphlogistic and anodyne properties of a very low or benumbing temperature in

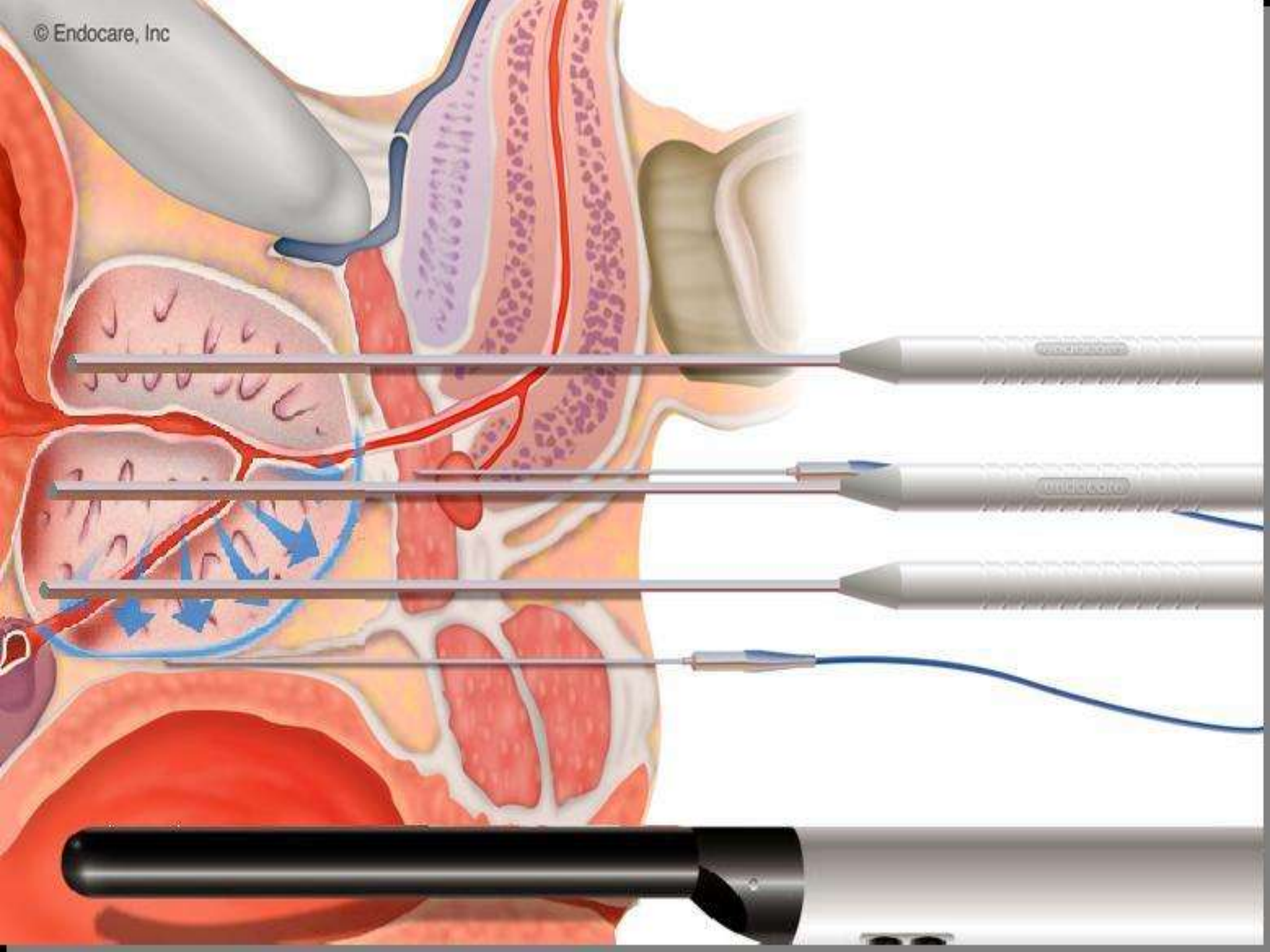
"congelation arresting the accompanying inflammation, and destroying the vitality of the cancer cell, is not only calculated to prolong life for a great period, but may not improbably, in the early stage of the disease, exert a curative action"

James Arnott, Lancet:1850

Gonder 1966 Nitrogen System



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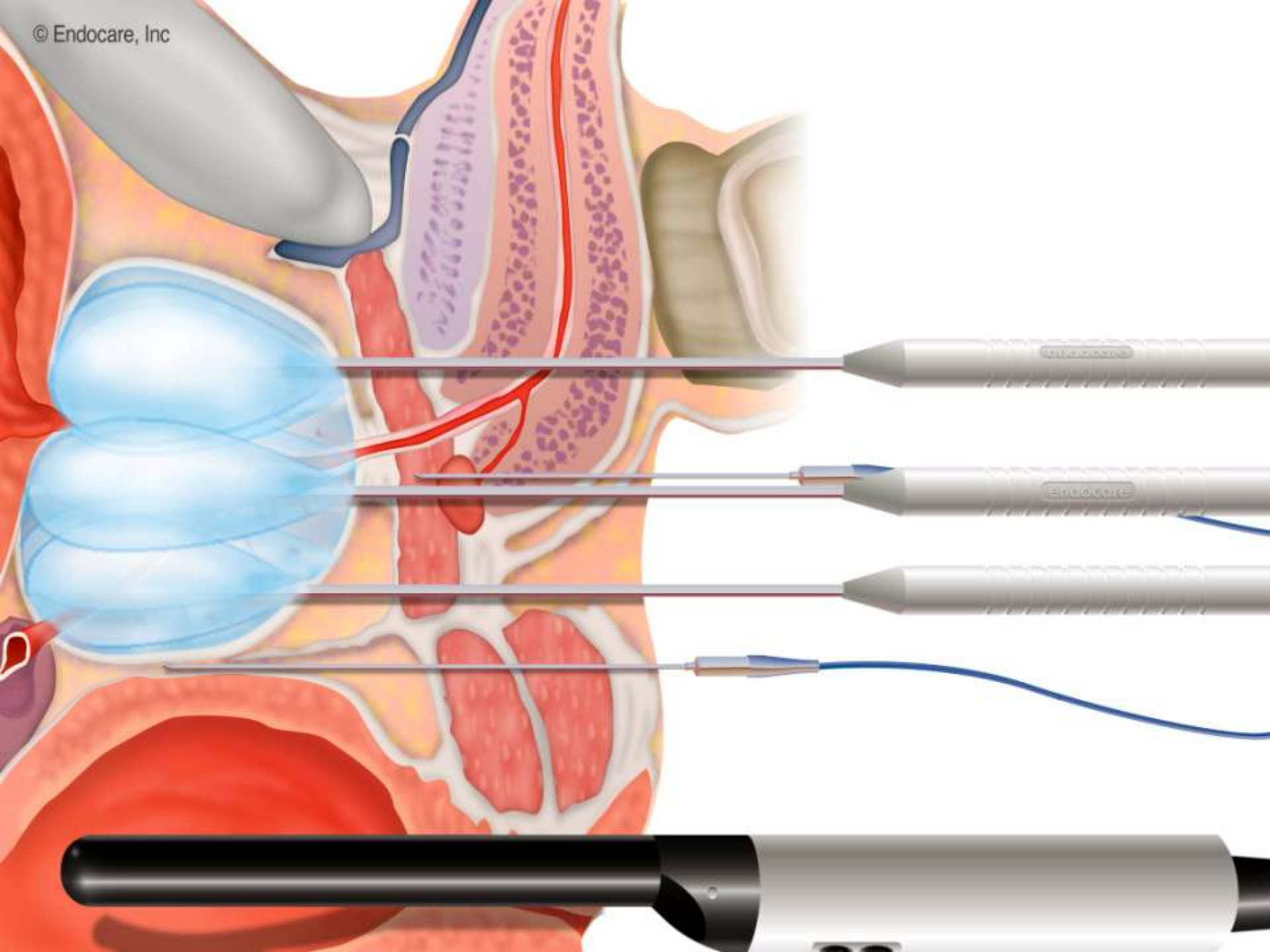
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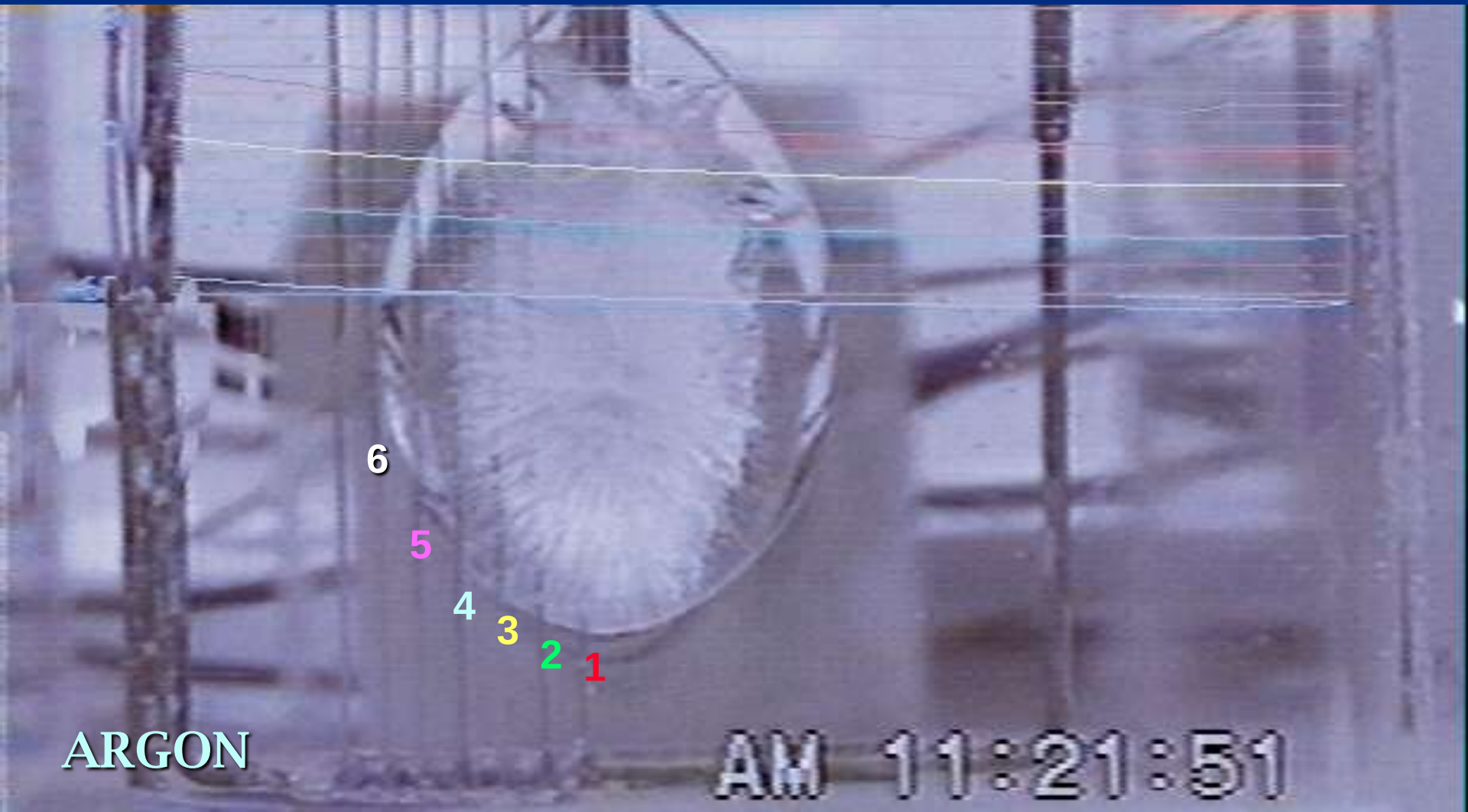
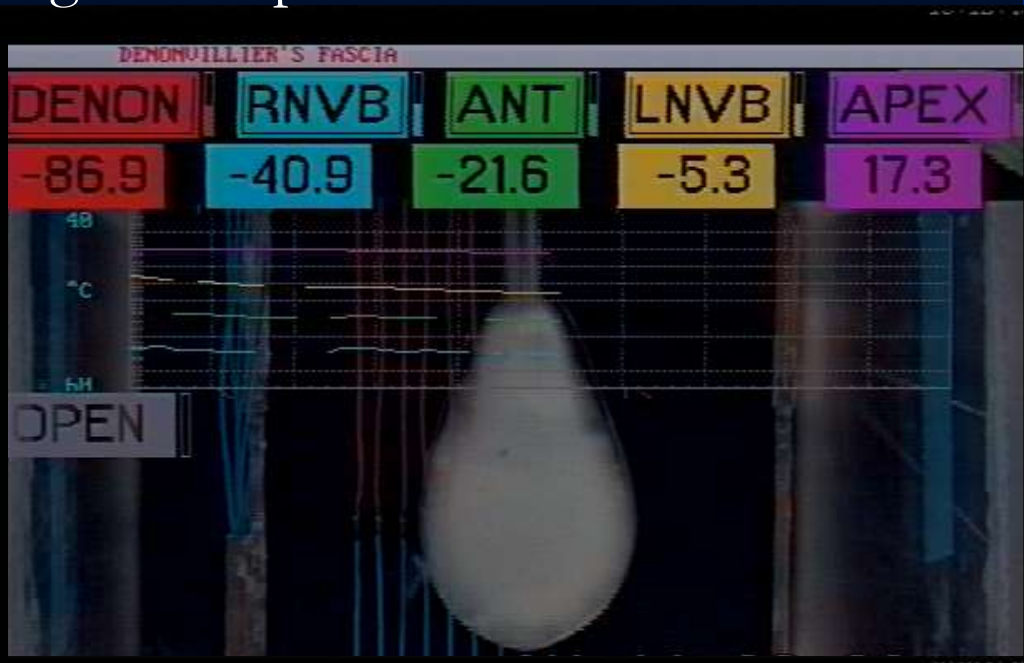
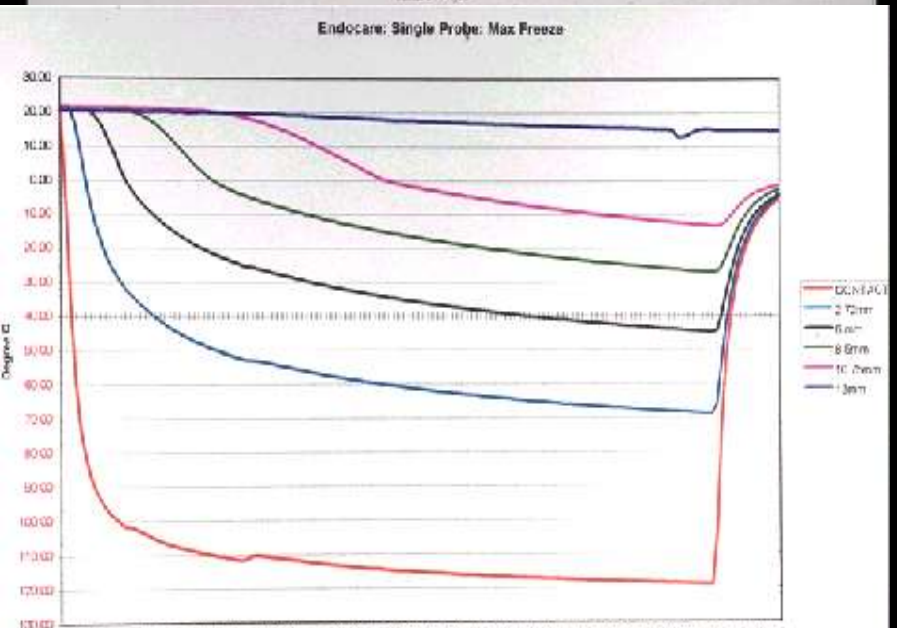
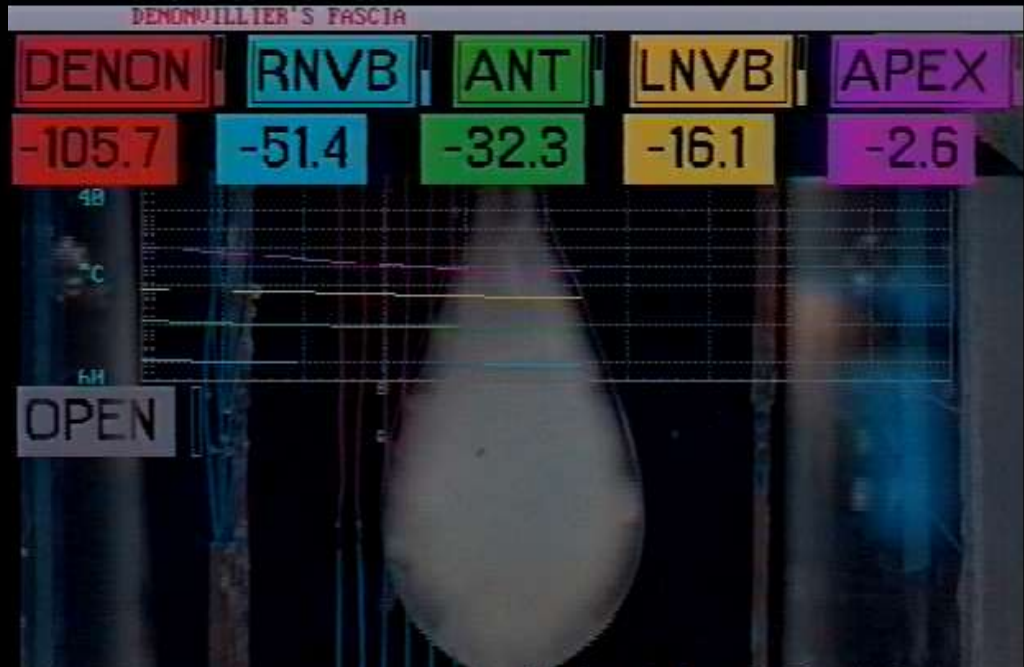
TC #6	TC #5	TC #4	TC #3	TC #2	TC #1
+6.8 ºC	-8.1 ºC	-21.5 ºC	-38.4 ºC	-68.4 ºC	-116.2 ºC



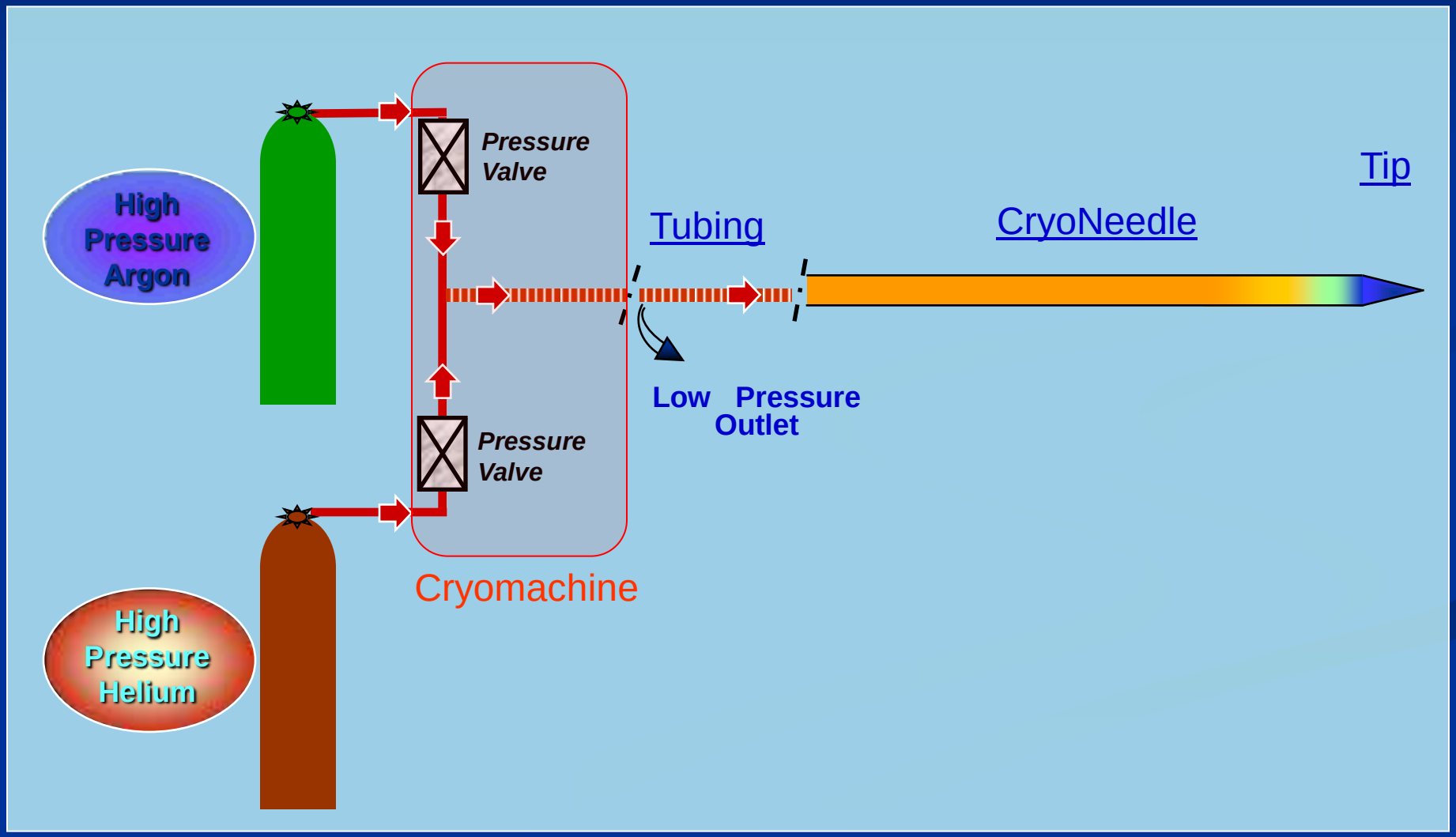
Comparison Nitrogen vs Argon Temperature Profile







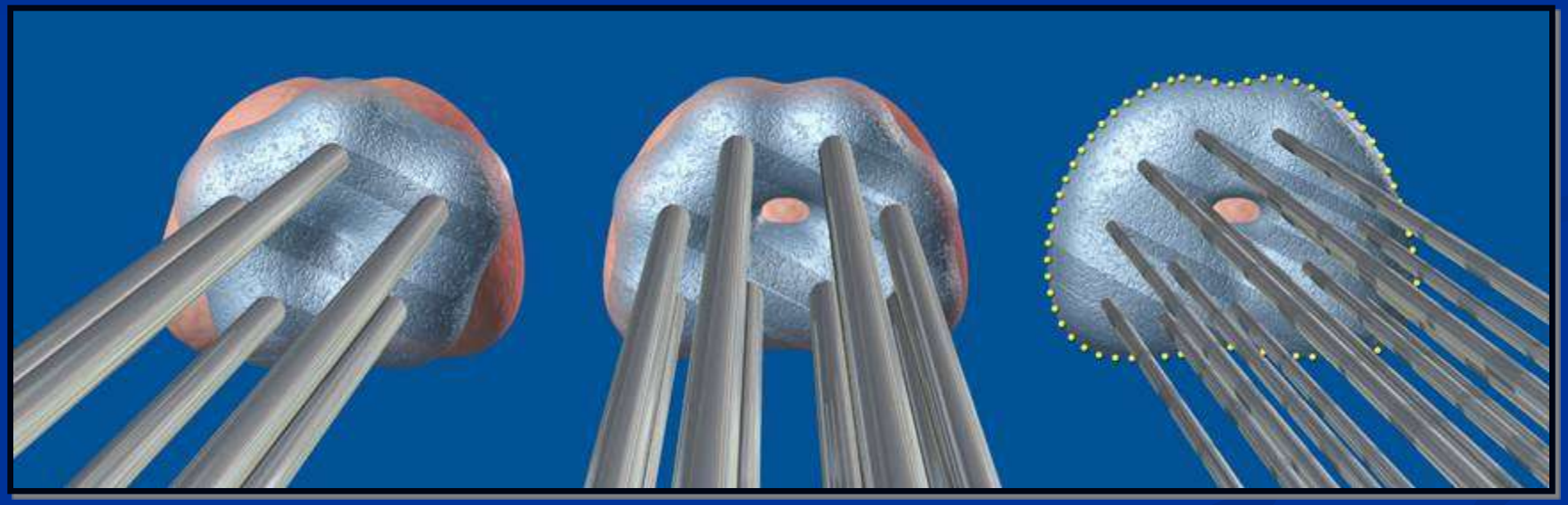
Joule -Thompson Effect



Modern Cryosurgery

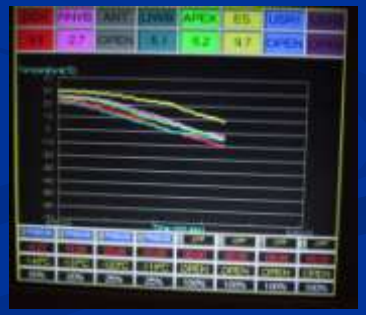
Evolution of Cryosurgery Needles

1st Generation	2nd Generation	3rd Generation
3 - 8 mm probe	**3,4 mm probe**	**CryoNeedle**
Nitrogen	**Argon**	**Argon**



Evolution of the ice ball size and shape

Advances in Prostate Cryosurgery



Urethral Slough at Cystoscopy

Prostate – Rectal Fistula