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E.g. "breast cancer" HER2 Smith J

- Pain reduction after pelvi-/laparoscopic interventions by insufflation of CO₂ gas at body temperature (Flow-Therme)
 (PMID:8050692)

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[Semm K](#), [Arp WD](#), [Trappe M](#), [Kube D](#)

[Abstract](#)

[Geburtshilfe und Frauenheilkunde](#) [01 May 1994, 54(5):300-304]

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Type: Clinical Trial, Randomized Controlled Trial,



Abstract

Intraabdominal pain, shoulder pain and tachycardia publications blame this on hypothermia caused by the CO₂ gas used. The authors discuss in detail the physics of the problems connected with the heating of CO₂ gas. Heating of CO₂ gas to 37 degrees C in the heating tube of the WISAP-Flow-Therme will not only reduce intra-operative hypothermia (down to 28 degrees C intra-abdominally and 34 degrees C in the rectum) but also the occurrence of tachycardia (reduced by 40% to 11%). Heating will also result in reduced CO₂ consumption, which is also of ecological significance. As a result of the overall improvement of the female patients' perception of pain there is a significant reduction in postoperative palliative medication required by 31%. The physical laws and data permit fitting the WISAP Universal Flow Therme to all commercially available CO₂ gas insufflators. The rinse water, as an additional factor causing hypothermia, should be preheated to 40 degrees C (WISAP water bath).

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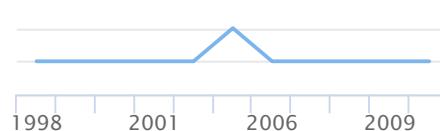
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