

# Medical Article References for: Laparoscopic Warming and Humidification

- **Humidified gas prevents Hypothermia induced by Laparoscopic Insufflation**

J.R. Bessell et al, Surgical Endoscopy 1999 13:101-105. " *We advocate the use of warmed but also humidified gas to maintain temperature homeostasis during laparoscopy.*"  
Surgical Endoscopy, Springer-Verlag NY, NY.

Article

- **Measurement of CO<sub>2</sub> Hypothermia during Laparoscopy and Pelviscopy**

**How cold it gets and how to prevent it. Volker J. Morrison JE et al, AAGL, Aug.1999Vol.6(3)289-295**  
" *hydration seems to be even more important than heating the gas.*"  
AAGL"Advancing Minimally Invasive Gynecology Worldwide" Santa Fe Springs, CA

Article

- **Severe Local Hypothermia from Laparoscopic Gas Evaporative Jet Cooling.**

**A Mechanism to Explain Clinical Observations. Gray R et al. Journal of the SLS 1999; 3:171-177.**  
" *evaporative cooling during laparoscopy are completely eliminated by humidifying the insufflation gas stream.*"

Journal of the Society of Laparoendoscopic Surgeons. Miami FL.

Article

- **Laparoscopic surgery—a revolution in the field of gynecology. Anand A.**

" *Since it is a closed operation, laparoscopic surgery preserves the moist conditions of the abdomen, which in turn reduces the risk of adhesion formation.*"

Ind. Med.Trib. 1994 Jul 15;2(11):1.

Abstract

- **Comparison of Immunologic and Physiologic Effects of CO<sub>2</sub> Pneumoperitoneum at Room and Body Temperatures**

Puttick MI, Scott-Coombes et al. " *The authors conclude that intra-operative cooling can be prevented by warming the insufflation gas even in short laparoscopic procedures.*"

Surg Endosc. 1999;13(6):572-5.

Article

- **Mild Intra-operative Hypothermia Prolongs Post-anesthetic Recovery**

Lenhardt R, Marker E et al. " *Maintaining core normothermia is thus likely to decrease time in the postanesthesia care unit and may reduce the costs of care.*"

Anesthesiology. Dec.1997 Vol.87(6):1318-1323

Article

- **Pain Intensity Following Laparoscopy**

Korrell M, Schmaus F, et al. " *a significant advantage was noted for the group treated with warmed CO<sub>2</sub>.*"

Surgical Laparoscopy & Endoscopy , Vol 6: 375-379.

Abstract

- **Hypothermia**

**B.V. MacFadyen, Jr., Surgical Endoscopy 1999 13: 99-100. " *It appears that heated humidified gas is a key factor in preventing heat loss as opposed to dry heated CO<sub>2</sub>.*"**

Surgical Endoscopy, Springer-Verlag NY, NY.

Article

- **Desertification of the Peritoneum by Thin-Film Evaporation During Laparoscopy**

Douglas E. Ott, JSLS 2003 7:189-195 " *Laparoscopically induced arid conditions, their complications, and thin-film peritoneal fluid evaporation are prevented by changing the characteristics of the gas to 36°C and 95% humidity.*"

Journal of the Society of Laparoendoscopic Surgeons. Miami FL.

Article

