



*Shelbourne Knee Center*  
at Methodist Hospital  
Specialized Care for Knee Injuries

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**Postoperative Cryotherapy for the Knee in ACL Reconstructive Surgery. Shelbourne KD, Rubinstein RA, McCarroll JR, Weaver J: Orthopaedics 2:165-170, 1994**

This study was designed to observe the effectiveness of three types of cold therapy in decreasing postoperative pain following anterior cruciate ligament (ACL) knee reconstruction. The three types of cryotherapy evaluated were the Hot/Ice thermal blanket, bags of crushed ice, and the Cryo/Cuff® - the latter being a device that combines cooling and constant compression, ie, a "pneumatic cryocuff." Four groups of 100 patients each underwent ACL reconstruction and postoperative rehabilitation according to the same protocol at the same medical center. Following the surgical procedure, group 1 used crushed ice, group 2 the pneumatic cryocuff, group 3 the Hot/Ice thermal blanket, and group 4 the pneumatic cryocuff. The same narcotics were used for the patients in comparison groups 1-2 and comparison groups 3-4. The number of injected and oral narcotics administered and the length of hospitalization were recorded. Group 2 (pneumatic cryocuff) required significantly less injectable ( $P=.021$ ) and oral ( $P=.005$ ) pain medication than group 1 (crushed ice). Although not statistically significant, there was a trend toward less use of injectable ( $P=.051$ ) and oral ( $P=.098$ ) narcotics by the group 4 (pneumatic cryocuff) than by group 3 (Hot/Ice). Days of hospitalization were significantly less for group 2 than group 1 ( $P=.0026$ ), and for group 4 than group 3 ( $P=.0003$ ). The evidence suggests not only that cryotherapy may be a method of minimizing postoperative pain after ACL reconstruction, but also that constant patient-controlled compression may be beneficial.