BACKGROUND: We aimed to explore current practices in use of therapeutic hypothermia after traumatic brain injury (TBI) or subarachnoid hemorrhage (SAH) in intensive care of adults. METHODS: Questionnaires were sent to anaesthesia department chairs in German hospitals with neurosurgical care in January 2004 with a survey focusing on cooling procedures, temperature measurement, depth and duration of hypothermia, and rewarming after therapy. RESULTS: 99 (67%) questionnaires on TBI and 95 (64%) on SAH could be analysed. Hypothermia was used in 39% after TBI and 18% after SAH. Its aims were neuroprotection in approximately 45% and control of refractory intracranial hypertension in approximately 50%. However, in most cases (69% TBI, 59% SAH) hypothermia was used in less than a quarter of patients treated. A criterion for hypothermia was severe disease in approximately 40% and refractory intracranial hypertension in approximately 50%. Temperatures were targeted to 36-34 degrees C in 77% after TBI and 88% after SAH. In more than 80%, bladder temperatures were measured. For induction of hypothermia, surface cooling was applied in approximately 90%. The duration of hypothermia was 24-48 h in 62% after TBI and 29% after SAH. Cooling was orientated at the intracranial pressure (ICP) in 31% after TBI and 47% after SAH, and was used for more than 48 h in
approximately 25%. After hypothermia was stopped, a rewarming rate of 0.5 degrees C/h was applied in 38% after TBI and 53% after SAH. In approximately 35%, rewarming was orientated at the ICP, and in 33% after TBI and 24% after SAH, it was performed over 24 h. After SAH, spontaneous rewarming was used in 24%. CONCLUSION: Therapeutic hypothermia is used in 39% after TBI and 18% after SAH in the intensive care of German anaesthesia departments. There is no standard in management, and there is wide variation in practices of duration of cooling and rewarming. For patients' benefit, evidence-based recommendations on therapeutic hypothermia should be published by the appropriate medical societies in the German language.