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Titel des Beitrags: The history and present status of deep hypothermia and circulatory arrest in cerebrovascular surgery.

Abstract: After the development of deep hypothermia and circulatory arrest for cardiothoracic procedures in the late 1950s, this technique was adopted by several neurosurgeons as an aid to complex cranial surgery. Woodhall and colleagues described its first use for a neurosurgical procedure in 1960. Although their case did not involve a cerebrovascular procedure, the technique was subsequently used for the surgical treatment of cerebrovascular lesions, especially complex and giant aneurysms as well as large and solid hemangioblastomas. At the beginning, incorporation of this technique into common neurosurgical practice was impeded by several factors. For example, postbypass coagulopathy had been a serious source of morbidity. Furthermore, the need for cooperation among multiple subspecialties and the requirements for expensive equipment had further limited the availability of this technique. Subsequent improvements in the technique and advances in the equipment designed for cardiopulmonary bypass have led to its more widespread use starting in the 1980s. Hypothermic circulatory arrest has been described in several reports as a safe and useful tool in the treatment of large and giant aneurysms. Nevertheless, improvements in endovascular procedures and further refinement in skull base surgical techniques have limited the indications for circulatory arrest and deep hypothermia. The authors describe the history of
hypothermia and circulatory arrest, its implementation in cerebrovascular surgery, and the changes in indications for and results of its use over time.

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