Deep brain stimulation (DBS) is becoming an increasingly performed surgery in daily neurosurgical practice. There are several important steps in DBS, such as patient selection, planning of the target, type of anesthesia, microelectrode recording if performed, and the fixation of the final electrode (lead). Suboptimal fixation can result in electrode migration shortly after the surgery. Unintended migration, and consequently displacement of the electrodes, occurs in up to 10% of the cases and is a serious complication in DBS surgery [1, 2]. This may result in no or suboptimal therapeutic effects, making a second surgery necessary [1, 3].

There are generally two methods for the fixation of the electrode to the skull. The first is using a burr-hole device provided by the hardware manufacturers. For this, the form of the burr hole has to be tailored to allow the placement of the burr-hole device [3–5]. The second is acrylic-based cementation [5, 6]. This provides the surgeon with a degree of freedom in the choice of the form and size of the burr hole. Some of the acrylics contain antibiotics and may form a barrier against infections. In the past 15 years, we have been using antibiotic-containing acrylic [7]. Besides some of its advantages, as outlined above, we experienced a disadvantage, which is the low degree of attachment of the acrylic to the bone, even with undercutting of the tabula interna to achieve a sandwich construction of the cement versus the burr hole. Frequently, we observed small movements of the acrylic construction related to cerebrospinal fluid/parenchyma pulsations. This was independent of whether one or two screws were used.

Adequate fixation of the DBS electrode is essential to prevent postoperative migration. The acrylic-based fixation method has been our method of choice for the last 15 years for several reasons. We modified this method by adding anchoring screws to increase the robustness. This change is in line with other attempts in the field to improve DBS surgery.

Disclosure Statement
The authors declare no conflicts of interest.

References