



## Split skin graft “from scalp to scalp” for repairing large surgical defects

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### Introduction

Given the rise in life expectancy among the population, there is an increase in older and very old patients with androgenetic alopecia who present with extensive centroparietal field cancerization. Men are more frequently affected, but women with androgenetic alopecia may also develop skin cancer on the scalp. Cutaneous squamous cell carcinoma represents the most common tumor type (approximately 70 % of all scalp tumors), followed by basal cell carcinoma (approximately 20 % of all scalp tumors), and finally primary cutaneous melanoma of the lentigo maligna melanoma type (approximately 10 %). The occurrence of these lesions may require partial or complete scalping [1].

In the first step, malignant scalp tumors (Figure 1a, b) are resected down to the loose connective tissue layer between the galea aponeurotica and the periosteum of the cranium (Figure 2). Depending on the consistency of the scalp and galea, spindle-shaped surgical defects up to a width of 1–3 cm may be closed directly. Once reconstruction becomes more complex, histological examination of surgical margins is required. The various histological methods for examining surgical margins have been described in JDDG [2]. In the authors' opinion, with respect to larger scalp lesions, examination of surgical margins on formalin-fixed and paraffin-embedded tissue has proven most successful (“Tübinger Torte” method) [2]. During the waiting period

of approximately 24 hours until the histology report becomes available, the extensively exposed periosteum can dry up and become devitalized. In order to avoid this, the surgical defect must be covered with a hydrogel and a semi-occlusive dressing. If the surgical margins at the base are not tumor-free, the periosteum has to be excised and the external lamina (table) removed in thin layers using a bone chisel. As long as the area of exposed cranial bone is small (1–2 cm in diameter), secondary intention healing may be considered. Since 2010, we have been treating deep scalp wounds with a plant-based oil spray made from neem oil and St. John's wort oil, which results in secondary intention healing in approximately 80 % of scalp defects associated with exposed cranial bone [3]. One option for larger wounds is immediate split skin grafting onto the well-vascularized diploë of the cranial bone. Very frequently performed today, the alternative procedure includes using a collagen matrix (to grow new skin) onto which the split skin graft is placed three weeks later [4]. In the following, we focus on a – rather obvious and elegant – method of split skin grafting for larger scalp defects. As donor site, we use the supraauricular scalp area [5].

### Technique

In tumescent local anesthesia, the split skin graft is removed from the supraauricular scalp region, unilaterally or bilaterally as required. A layer of 0.2–0.3 mm is sufficient for