



NAVIGATIONAL SURGERY  
OF THE FACIAL SKELETON

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# Navigational Surgery of the Facial Skeleton

With 129 Figures

 Springer



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## Preface

Navigational surgery in the craniomaxillofacial field started to become clinically applicable in the 1990s. Its distribution into daily routine, however, was limited due to the fact that all navigation systems narrowly addressed neurosurgical needs, which are basically to find a 3D structure within a 3D volume. However, in the field of craniomaxillofacial surgery these neurosurgery-oriented navigation systems had to be adapted and the software changed, especially with respect to preoperative planning, including virtual model building and following the pre-op plan during surgery. This changed the workflow in the field of navigational surgery in the craniomaxillofacial field so greatly that a separate imaging analysis platform for pre- and postoperative assessment and quality control became more and more demanding.

The authors have promoted the idea of pre- and postoperative planning and the interface of these imaging analysis achievements with intraoperative

navigation. This has led, over recent years, to a very beneficial implementation of modern technology into the area of patient care. We implemented this technique into our daily routines in our departments and we even promoted the idea of preoperative planning in teaching of our residents and students, so that every voxel-based data set is now assessed on an imaging analysis platform. Furthermore, we found it useful that pre- and postoperative image fusion of voxel-based datasets led to a unique type of quality control with respect to surgically achieved results.

We hope that through this book we can share the ideas we had and achievements we made during the last ten years. We hope that the next generation of surgeons will have the chance to include these achievements in their daily practical work.

**Alexander Schramm, Nils-Claudius Gellrich  
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