

# RTM NO.5 CONCLUSION

In four sessions of the Round Table Meeting, experts in spine surgery presented four topics in the field of endoscopy and afterwards invited colleagues for further discussion.

**J.N. Alastair Gibson, D.Sc., MD** encouraged in the first session discussion about the increasing popularity of endoscopic spine surgery (ESS) and its potential to become the new “Gold Standard” in spine surgery. A range of studies already demonstrated the non-inferiority of the full-endoscopic approach compared to traditional spine surgeries carried out with the microscope in both outcomes and costs. The outcomes of the ESS merit the costs and are associated with minimal complications. Furthermore, surgeons benefit from proficiency in all access routes and regions, i.e. TESSYS® transforaminal, iLESSYS® interlaminar approach and application in the cervical spine (CESSYS®). The learning curve of ESS can be definitely mastered, but it is advisable to start with the lumbar spine. With continuing innovations, like augmented reality and robotics, being more often part of the surgeon’s armamentarium and present in the operating room, it might be interesting to follow the progression of this technology in spine surgery.

In the second round table meeting, **Dr. Ralf Wagner** introduced the endoscope-assisted lumbar fusion on the base of the EndoLIF® platform technique. He shared specific cases and approaches he performed and did follow-ups over the years. Currently, it is the standard to combine an interbody fusion with a bilateral screw-rod fixation. Yet, are there additional options to minimize the implant procedure? It was discussed, if cages can be used as standalone implants without the need of additional screw-rod fixation or at least be able to adjust the cage placement so that a unilateral fixation is sufficient. These approaches need to be further explored and could constitute an option for the correction of spine deformities. Advancements in cage design in terms of expandability and adjustability might help in pushing the standalone cage implantation forward. Furthermore, a biportal access for interbody fusion should be investigated as well, because this approach might enable better verification of cage placement. Last but not least, disc replacement and nucleoprosthesis were addressed. Total disc replacements are standard procedures in many countries already, specifically in the cervical spine, as 2<sup>nd</sup> and 3<sup>rd</sup> generation disc show very favorable results. In contrast, all nucleoprosthesis solutions failed due to various reasons. But, in the event of a new implant solution breaking ground, the implantation of it should always be done endoscopically, due to all the benefits associated with endoscopy.

The third session was dedicated to the successful set up of an endoscopic practice. **Muhammed Assous MBChB., FRCP.**, a passionate surgeon who highly dedicates to teaching endoscopic spine surgery, underlined the importance of adequate training and solid local support for surgeons at the beginning of the learning curve for ESS. Surgeons at any level must be aware and consequently be able to adjust to any case since the pathology of patients determines the approach but not the other way round. In many examples, Dr. Assous explained very detailed the ideal approach to cure a given disease in demonstrating the variations of transforaminal TESSYS® and interlaminar iLESSYS®. Pathologies in the lumbar spine are ideal as first cases followed by the thoracic and lastly the cervical spine. Concerning the equipment, no mix and match of tools is recommended. The irrigation pump was addressed in great detail because a wrong pressure can result in complications such as causing headaches for the patients.

The last round table meeting focused on pain therapy. **Dr. Stefano Meloncelli** demonstrated the efficacy of the endoscopic approach on facet and sacroiliac joint pain therapy. While there is no common agreement how long the effect of an endoscopic rhizotomy will last, it could be said that the treatment is efficient for at least 2 years but that depends strongly on the number of affected segments and the patient's age. In general, endoscopic pain therapy is highly successful and the learning curve is less steep compared to other surgical interventions for the spine. Additionally, ultrasound was described as a suitable alternative for anatomical navigation and thus decrease exposure to X-rays. The burden for patients could be decreased even more if the surgery is performed under local anesthesia with mild sedation. Although, it is common that the economic criteria of the country is what ultimately determines the anesthesia used. Considering these aspects, endoscopic pain therapy can also be applied on non-spinal nerves, e.g. the denervation of the suprascapula or saphenous nerve. How could this be determined whether surgery shall be recommended? Medication at the site of interest is injected and if the pain does not subside within two days, surgery is needed.

The variety of levels in attendance allowed for inspiring discussions and strong exchanges of experience in the various aspects of ESS. In conclusion, ESS is becoming the "Gold Standard" and surgeons must be assisted in their learning curve and kept up to date. The therapeutic approach varies with each patient which must be appreciated by a high level of flexibility, progressing education and the training of surgeons. Furthermore, continuous optimization of existing equipments and innovations help improve efficacy and increase safety for patients. joimax® takes all these requirements and needs for the full establishment and implementation of ESS in a spine surgeons daily practice to heart and lays out major education and training programs under the umbrella of ESPINEA®.