

Surgery in Austria at the Turn of the 21st Century

a report by

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The social and political system in Austria is organised so that statutory social security provides all medical supplies to the entire population of eight million people. In addition, private medical insurance is available, which grants, in addition to a high level of medical quality, more comfort and the freedom to choose physicians and hospitals. In the last four decades, life-expectancy has increased by one decade (women: 80.9, men: 74.7 years). Public health expenditure has also increased from €0.4 billion (1960) to €11 billion (1997). Health expenditure has doubled in the last 40 years from 4.3% (1960) to 8.3% (2000) of the gross domestic product. The average annual increase is 6.9%. The total morbidity of the population did not change significantly; however, there have been 32,000 new cases of cancer per year. The number of physicians has tripled during the last 40 years, whereas the population has grown only about 10%.

The introduction of minimally invasive surgery into daily surgical practice made a big impact in many countries. Those who performed the first laparoscopic cholecystectomies were faced with a lot of criticism. However, within a nine-month period, 24 out of 137 surgical services in Austria had started with this new technique. Surgeons had to learn that soft tissue trauma and its reduction is more significant for the post-operative comfort of the patient than the operation itself.

Surgeons in Austria were encouraged to participate in a nationwide register of minimally invasive surgery. Of the 86,000 cases, it could be reported that the incidence of common bile duct lesions for laparoscopic cholecystectomy came down to 0.37%. In the new millennium, 75% of all cholecystectomies are carried out by laparoscopy in Austria. Within the next three years, the following premieres will also be achieved:

- appendectomy;
- adhesiolysis;
- pneumothorax;
- peripheral nodules of the lung;
- bowel obstruction;
- large bowel resection;
- liver resection;
- hernia repair;

- perforated ulcer;
- gastroenterostomy;
- splenectomy;
- adrenals;
- nephrectomy;
- biliodigestive anastomosis;
- choledocholithiasis; and
- gastric resections.

The recognition of the importance of soft tissue also gave inspiration to other indications such as varicose veins (subfascial endoscopic treatment with excellent results concerning healing of long-lasting ulcers of the leg) and breast surgery (sentinel node surgery minimising axillary trauma). However, there was also an impact on traditional surgery itself.

- Surgeons had to learn that the post-operative comfort of the patient depends more on the trauma to the soft tissue than on the operation itself.
- Drains and tubes are contributing to the discomfort of the patients. Life quality measurements, endpoint analysis and other sophisticated academic investigations aim for the goal of painless surgery.
- The option of minimally invasive removal of the gall bladder increases the acceptance of a surgical option to patients with gallstones.
- Telemonitored surgery is not a keyhole surgery, but it gives a much better view by magnification than open surgery. The transmission of the operating field contributes to the motivation and education of the residents. This leads to atraumatic and blood-saving surgery.
- Surgery for hernia repair has motivated nearly all surgeons either to accept minimally invasive techniques or to switch to tension-free open surgery. Regional anaesthesia nowadays is gaining popularity.
- Minimally invasive appendectomies have influenced open surgery in that traumatising of the caecum is reduced by avoiding the traditional pursestring and Z sutures.

- Minimally invasive thoracic surgery increases therapeutic possibilities, especially for peripheral lung nodules. Diagnostic uncertainty, resulting from observation or cytological examination, is replaced by complete removal of suspicious lesions.
- Minimally invasive and further developed techniques of virtual reality will help in the education of young surgeons. Hopefully, during the 'learning curve', the failures and problems of future surgeons will stay within computers.

The influence of minimally invasive surgery is significant: 75% of all cholecystectomies, 15% of inguinal hernias and 7% of appendectomies are carried out by laparoscopy. There is likely to be an increasing tendency to use minimally invasive techniques for adrenals, oesophagectomy, partial lung resections, fundoplication, limited liver resection, colon resections and bariatric surgery.

Two generations of young surgeons have already had their training influenced by minimally invasive surgery. In spite of all the fascinating new technology, however, they will hopefully remember that compassionate care is just as important. ■

Table 1: Operations Performed in 1998 in Austria

Surgical Operations 1998	N = 149,694
<i>Goitre</i>	8,895
<i>Parathyroidectomy, adrenalectomy</i>	728
<i>Breast surgery</i>	14,247
<i>Oesophagectomy</i>	253
<i>Lung resection</i>	5,191
<i>Fundoplication</i>	521
<i>Distal gastrectomy</i>	1,036
<i>Total gastrectomy</i>	414
<i>Cholecystectomy (open)</i>	5,402
<i>Laparoscopic cholecystectomy</i>	15,191
<i>Liver resection (limited)</i>	424
<i>Hemihepatectomy</i>	136
<i>Whipple procedure</i>	241
<i>Appendectomy open</i>	19,405
<i>Appendectomy laparoscopically</i>	1,295
<i>Colon resection</i>	6,170
<i>Rectum resection</i>	1,610
<i>Miles procedure</i>	381
<i>Inguinal hernias</i>	26,328
<i>Inguinal hernias, laparoscopic</i>	3,707
<i>Proctologic surgery (haemorrhoids, fissure, fistula)</i>	9,484
<i>Abdominal aorta</i>	1,605
<i>Thrombectomy, embolectomy, peripheral bypass</i>	9,024
<i>Varicose surgery</i>	18,006