



AO Foundation

THE FIRST
50
YEARS

Annual Report 2007

Specialized knowledge for special needs





Our **vision** is excellence in the surgical management of trauma and disorders of the musculoskeletal system.

Our **mission** is to foster and expand our network of healthcare professionals in education, research, development, and clinical investigation to achieve more effective patient care worldwide.



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Specialized knowledge for special needs



Trauma

In an emergency, every second counts. Swift action by a well-rehearsed team is required to prevent serious damage. Decisions need to be taken quickly—with a level head and a clear view of consequences. This is the situation trauma surgeons face every day.



CMF

A human face is a work of art, just like a clockwork. In this perfect composition, a fraction of a millimeter will make all the difference. Precision is the key to preserving and rebuilding this masterpiece. That's what the CMF surgeon continually strives for.





Spine


What does it take to fix a highly complex and equally sensitive system? A system where the smallest mistake can mean danger to life? Strong nerves, a steady hand, and, most of all, a readiness to assume risk and responsibility. That's what makes for a good spine surgeon.



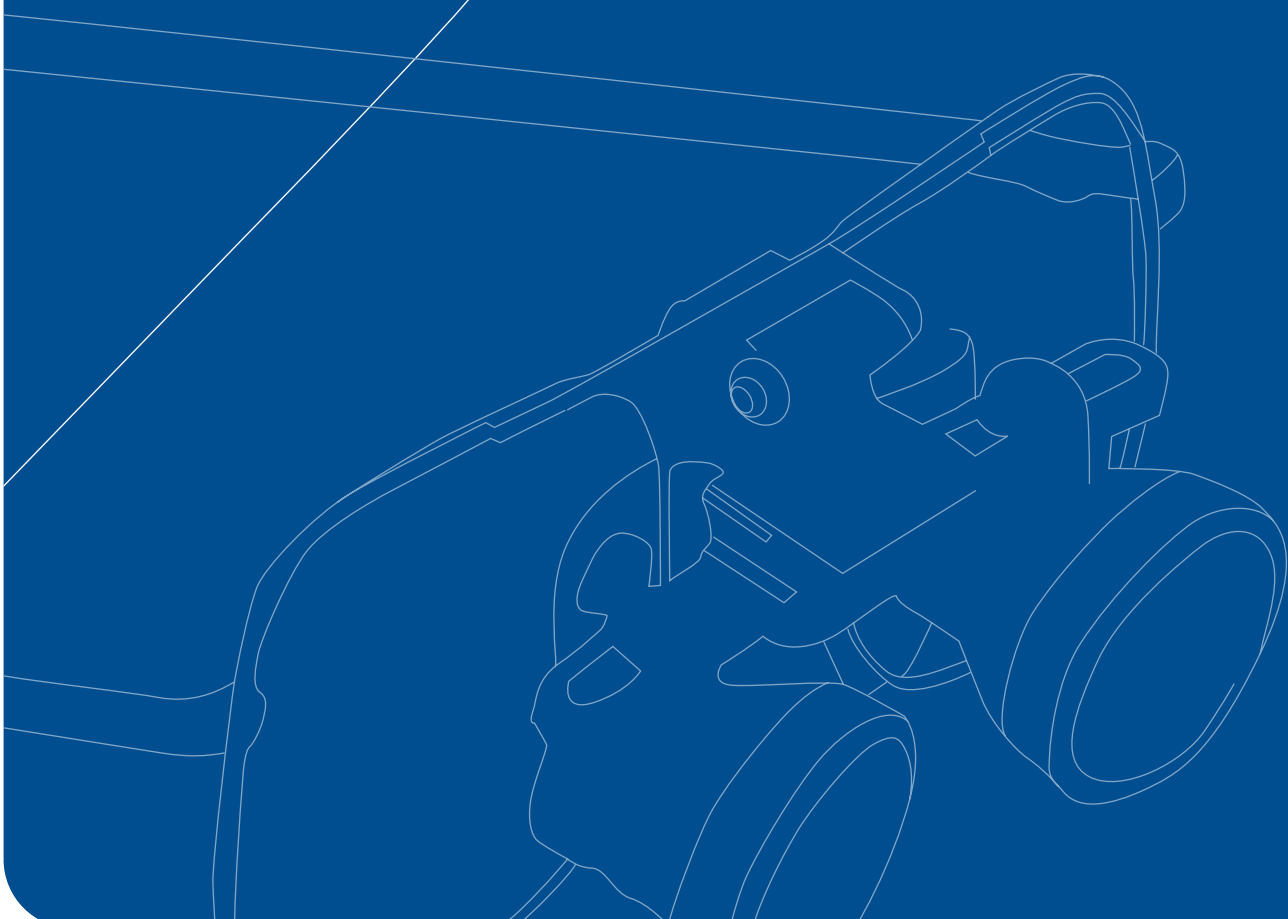
Veterinary

Working with animals requires a special type of person: sensitive toward their needs, and willing to take on stewardship while respecting their inherent dignity. These are the characteristics of a good veterinary surgeon.





AO has launched a number of initiatives to advance its **strategy** and sharpen its profile.





Markus Rauh



Christian van der Werken



“We are getting AO fit for the next 50 years.”

Interview with Christian van der Werken, President of the AO Foundation,
and Markus Rauh, Chairman of the Board of Directors

Prof van der Werken, what kept you busy in 2007 as AO got ready for its 50th anniversary celebration?

[Christian van der Werken](#) After ten years of rapid growth, we found ourselves struggling with typical “growing pains”. This situation made us take a step back and critically review our main processes and activities. So we embarked on several strategic initiatives to get AO fit for the next 50 years and provide more tangible value to clinicians around the world.

Dr Rauh, what is your take on the past twelve months?

[Markus Rauh](#) It was a year of reorientation and refocusing. One topic taking up a lot of our time and effort has been our course and membership management initiative. The global network is still AO’s biggest asset. Due to the tremendous growth in recent years, it’s no longer possible to be personally in touch with or know each one of our members. So we’re looking at modern technology to manage membership globally with a high level of customization. Our aim is to provide an attractive offering to the individual clinician, based on their current career status and evolving interests.

[Van der Werken](#) As a basis for this technical solution, we have also continued work on a new membership scheme, based on different

levels of membership and tailored benefit packages. This of course goes hand in hand with our increasing specialty orientation—the goal of another ongoing strategic initiative.

Does this mean the umbrella organization is starting to crumble?

[Van der Werken](#) No, not at all! The Trustees Meeting in Beijing has left no doubt that despite all our differences we still have a lot in common. We have had some turbulent years, but this time there was a very strong feeling of unison. I personally felt something like a fresh “AO Spirit” coming to life. But to remain attractive to surgeons of all specialties, our activities must be guided by the needs of each specialty. It’s really about striking the right balance between differentiation and standardization.

How will these changes impact on the role of the regions?

[Rauh](#) We want the clinicians to assume accountability for everything that happens in their specialty. The AO Regions and regional offices will continue to play an important role as they act as service centers providing facilities and manpower to the specialties. With its new membership and well-functioning matrix organization, the Spine specialty sets a superb example of how this can be achieved.



"At the Trustees Meeting, I felt something like a fresh 'AO Spirit' coming to life."

Christian van der Werken

Van der Werken In terms of regional development, an important milestone for me was the formation of AO Asia Pacific with dedicated Trauma, Spine, and CMF organizations. It replaces the former AO East Asia and stretches all the way from India to New Zealand and Japan. That means the region covers more than half of the world's population! I'm sure it will provide important impulses for other parts of AO.

Education is one major way of reaching out to the global network. What progress have you seen in this respect?

Rauh I must say I'm extremely happy with the achievements of AO Education. Every year, they are putting on more courses. We're approaching 450 in 2008. And they've taken additional measures to enhance the quality of our education. A focus in 2007 was on addressing the problems that participants meet in applying their learning, and facilitating the transfer of course content into practice.

Van der Werken Let's not forget to mention our online services provided on the AO Knowledge Portal. It is definitely key for the global network. We are very proud in particular of the AO Surgery Reference, which has continued its runaway success, continuously increasing the number of visitors and winning prize after prize. It plays a major role in fulfilling our mission.

Another important pillar is research. What progress has been made on the Clinical Priority Programs, or CPPs?

Van der Werken Most projects are well on track. But, quite frankly, we came to realize that we were overly optimistic in some respects, underestimating the workload and complexity involved...

Rauh ...and overstating project deliverables. So, even though all the teams are highly motivated, they need more time to produce the

expected returns. Still, the concept of the CPPs is right, and they are proving to align the organization on topics of high clinical relevance.

If I understand correctly, this alignment is now also supported by another strategic initiative?

Van der Werken That's right. This project serves to redefine our research and development structure and resources. It will help us focus our limited resources on those areas where we can really be a major player, ensuring AO's relevance and clinical impact in today's world of research. The initiative made major headway in 2007, and is now well on track for implementation.

Rauh We have already passed a new operational and governance structure for our pre-clinical and clinical research activities. As a consequence, the AO Research Institute and AO Development Institute will be merged. In addition, we have set up separate legal entities as vessels for all commercial activities to strengthen AO as a nonprofit organization. In 2007, the Trustees also passed a revised foundation charter, which reflects the ongoing changes and will make our structures more transparent and efficient. All of these measures will help us strengthen the clinical relevance of AO's research and development and sharpen our profile.

What about the new AO Foundation Design that was introduced in 2007?

Van der Werken Personally, I am extremely happy with the outcome. I must admit, I was initially a bit disappointed because it was not the big step we had aimed for. I can now see it really works well in our complex matrix structure. It appears so natural, much more modern.

Rauh We are now successfully presenting one face to the world. That's an important step forward.

What other achievements have been made in 2007?

Rauh In August last year, we signed a cooperation agreement with Siemens Medical Solutions. Under this new contract, we receive an educational grant and will be able to include the latest imaging techniques in our teaching. It's really a win-win situation. Additional cooperation deals with an impact on



"We need to strengthen the clinical relevance of AO and sharpen our profile."

Markus Rauh

education are underway. These are essential if we want our offerings to cover the entire surgical management process.

Has this in any way impacted on AO's cooperation with Synthes, Inc.?

Rauh Our long relationship with Synthes, Inc. is evolving into a productive cooperation of equally footed partners. I'm sure it will remain of primary importance to AO. Our TK-System works on an exclusive basis for Synthes. In return, Synthes supports AO with a substantial educational grant. In 2007, we continued to disentangle our somewhat overlapping activities that existed in educational logistics, particularly in North America. For this purpose, our North American operations have been adapted in line with the stricter CME guidelines, to ensure our continued reaccreditation.

2008 marks the 50th anniversary of AO.

What can we expect from AO during this year?

Van der Werken We have put together a rich program full of special courses, symposia, and other attractive jubilee events, with a special focus on the treatment of fractures in geriatric patients. This program will allow us to present AO as the scientific, academic, nonprofit organization that it is. There's something going on in every corner of the world and which appeals to all our specialties.

So it's an entirely scientific program?

Van der Werken Not at all. Of course, we've also planned some proper festivities. These will allow us to celebrate the AO Spirit and family feeling, and give credit to those who contributed to AO in its first 50 years. At least those who are still alive. Sadly enough, one of our dear Founding Members, Martin Allgöwer, just passed away in October 2007.

Rauh We were fortunate to celebrate his 90th birthday with him earlier in the year, and bid him farewell. I feel we've all lost a friend and

a pioneer who helped us become what we are today.

Van der Werken All the more, I look forward to meeting many other colleagues and friends from all over the world. A personal highlight for me will be the unveiling of the Founders' Plaque in Biel in March, which will coincide with the 90th birthday of Founding Member Maurice E Müller. And then of course, there are the big festivities in Davos in June...

Does that mean the year 2008 will be entirely dedicated to the anniversary?

Rauh Yes and no. It will definitely be a very busy year for us. We're celebrating our anniversary but at the same time are also looking into the future. So, we'll push ahead with our strategic initiatives. We have decided on a flat contribution budget for 2008 and will continue to review our processes and structures. Our goal is clear: We will make the organization leaner and more effective, laying the groundwork for another successful 50 years.

Farewell to Founding Member Martin Allgöwer

With the death of Martin Allgöwer in October 2007, AO lost one of its founding fathers and a driving force in revolutionizing operative fracture fixation. Martin Allgöwer's surgical career began at the University Hospital of Basel, Switzerland, where he started his research into the cellular basis of wound healing and toxic substances in burn patients. His professional interest, talent, and vision led him and twelve other surgeons to found AO in 1958—and stay in close contact for the rest of his life. Martin Allgöwer received multiple honorary doctorates from universities and honorary memberships of many scientific societies. He was not only respected as a talented surgeon but also highly appreciated as a mentor by generations of AO surgeons.



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Shaping up for increased clinical value

Although taking pride in its successful past, AO is far from being trapped in organizational complacency. The year 2007 was one of critical review as AO sharpened its activities and structures to provide more tangible value to the global surgical community.

The pace at which AO has driven its strategic initiatives has remained high over the past year. AO is today recognized by surgeons around the globe for the knowledge and education it provides for the treatment of patients with trauma and disorders of the musculoskeletal system. To remain attractive and continue activating the most talented surgeons, AO has launched several forward-looking initiatives. They are designed to help the organization increase its clinical relevance and tailor value to the individual surgeon's needs.

Course and membership management

AO's main assets have traditionally been the knowledge generated for improved patient care, dissemination of this know-how to surgeons worldwide through specialized educational offerings, as well as its global network of affiliates and partners—the actual backbone of AO. While the continued quantitative and qualitative growth of its network is testimony to the organization's relevance, it has brought with it a dramatically increased management challenge. Following the definition of the cornerstones of a new, more transparent membership concept in 2006, the focus in 2007 was on elaborating the details. This included identifying a powerful

technical infrastructure for course and member administration to address each individual's needs in terms of career status, surgical specialization, geographic affiliation, as well as professional and social interests.

New paths in research and development

Major headway was made in the strategic initiative looking at AO's research and development activities. In December 2007, following a thorough analysis and evaluation of scenarios, the Board of Directors (AOVA) decided to focus the AO research activities on exploratory research, applied/translational research, and research services. In the future, AO will concentrate its efforts in these three areas with adapted operational and governance structures. Funded by the AO Foundation, exploratory research is mainly performed by a network of leading research partners, including the in-house activities. Applied or translational research is funded by the AO specialties, mainly via Clinical Priority Programs and start-up grants. Supported projects must be peer-reviewed by certified reviewers. A Research Advisory Group will advise all research-related groups within AO.

1 Osteoporotic bone models are being discussed during the Geriatric Fracture Course in Davos in December 2007. Osteoporosis is a major research focus of AO.

2/3 Compared to healthy bone (2), osteoporotic bone (3) shows a weakened structure, leading to an increased fracture risk.

4 Partnerships with industry are essential for AO. The collaboration with BrainLAB in navigation has produced important results.

5/6 In 2007, a cooperation agreement was signed with Siemens Medical Solutions in the field of imaging.



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In operational terms, the AO Research and Development Institutes will be merged to form the R&D Competence Center. Under the guidance of the R&D Committee, it may contribute to exploratory research projects and will be more strongly focused on applied/translational research. The former AO Clinical Investigation and Documentation will become the CID Competence Center. Guided by the CID Committee, it will be the preferred partner for clinical research.

Partnering with the best

Striving to offer a comprehensive package of cutting-edge services to the surgical community, AO has a long history of cooperation between science and industry. In August 2007, AO signed a cooperation agreement with Siemens Medical Solutions allowing it to include digital imaging techniques, such as radiology and magnetic resonance (MR) imaging, in its educational programs. One of the world's largest providers of innovative medical solutions, Siemens will support AO with a grant for the development of educational materials and modules, as well as educational logistics. Siemens will also provide the required hardware, eg, C-arms, and support staff for AO Courses.

This agreement is compliant with CME requirements and represents an important building block as AO may forge additional partnerships in the future to ensure the most efficient and comprehensive surgical management process. It complements AO's existing partnerships with Synthes, Inc. as well as BrainLAB.

Strengthening the specialties

Ensuring greater relevance for clinicians calls for a stronger focus on the specific requirements of their surgical specialty. While all surgeons have some needs in common, there are also distinct differences, for example with regard to their specific training needs. Recognizing these differences, AO has decided to strengthen its specialty orientation. As a first step, this entailed a comprehensive analysis of the strategy, processes, and interfaces currently in place. On a global scale, each specialty receives support from the respective AO Region and regional office in terms of logistics and services. This regional focus remains key to ensure the proximity and relevance of AO to the practicing surgeon.

Naturally, these changes have an impact on AO's allocation of resources and competences. However, they are indispensable to strengthen AO's clinical relevance, and help secure its future as an opinion leader in the surgical management process of trauma and disorders of the musculoskeletal system.

The background is a solid teal color. Overlaid on this background is a white line-art illustration of a person's head and shoulders. The person has long, wavy hair and is wearing a garment with a high, ruffled collar. The line art is minimalist, using only outlines without shading.

Constituting AO's historic core, **Trauma** activities still account for the majority of AO's global engagement.

Taking trauma care to the next level

With the goal of moving trauma care to the next level of excellence, the SAcC General Trauma launched a number of new initiatives while maintaining the high pace of existing activities.



In order to define future research priorities in trauma and to further increase its own efficiency, the Specialty Academic Council (SAcC) General Trauma has established a road-mapping process. This includes idea generation and prioritization, and uses a graphical approach to cut through complexity, visualizing the road ahead. The process established builds on workshops with clinicians, researchers, and other relevant parties. Two such workshops focusing on implant-related infections were held in New York and Davos in 2007. Their results are now being used to identify the most important clinical problems in this area.

Optimizing implant design

Research from the AO Research Institute (ARI) into hard-tissue adhesion to implants produced important new insights in 2007. Polishing titanium cortical screws was shown in vivo to reduce bone removal torque. Polishing of locking compression plates (LCPs) was found to significantly reduce preparation time to remove plates, leaving clear clean screw heads for easier removal. Polishing significantly reduced the extraction force required for titanium aluminum niobium (TAN) intramedullary nails. Once implemented, these findings should help to reduce complications seen with plate and nail removal, especially in rapidly growing young bone.

Deeper insights into patient outcomes

Another important initiative of the SAcC focuses on health outcome measures. Both before and after treatment, trauma/orthopedic patients are being asked to complete an increasing amount of paper-based questionnaires. Due to their standardized and time-consuming format, return rates are frequently low and the validity of the outcome measures reduced. To gain real insights, a new electronic questionnaire is being developed, allowing for individual patient customization. Led by AO Clinical Investigation and Documentation (AOCID) and integrated into a larger project of the US National Institutes of Health (NIH), this computer-assisted testing (CAT) project is progressing well.

Clinical Priority Programs well on track

Staffed with a new program manager, the Clinical Priority Program (CPP) “Fracture Fixation in Osteoporotic Bone” progressed smoothly, and some of the knowledge gained has already been successfully transferred to AO Education. In cooperation with AO North America, the new Geriatric Fracture Course was introduced at the 2007 Davos Courses. This course addresses the comanagement of geriatric and orthopedic surgeons in terms of medical complexity and comorbidities as well as polypharmacy of elderly patients. Several surgeons with a special interest in geriatric surgery participated as course chairmen or faculty, highlighting the interdisciplinary care of geriatric fracture patients.

Another highlight was the further development of DensiProbe™ under the lead of the AO Development Institute (ADI). This new concept for intraoperative measurement of local bone strength was successfully translated into a practical tool—DensiProbe™ Hip. The first 20 clinical cases were presented to surgeons in December 2007, and DensiProbe™ Hip is now ready for a multicenter clinical study starting in the summer of 2008.



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Valuable clinical research results

Several important trauma studies conducted by AO Clinical Investigation and Documentation (AOCID) were concluded in 2007. These included a multicenter prospective cohort study centered on proximal humeral fractures—a widespread clinical problem with high complication rates. The study aimed to evaluate use of the proximal humeral locking compression plate (PHILOS), a device which promises to decrease complication risk due to its angular stability. It showed that fixation with the PHILOS plate provides high stability and good functional outcome. However, some surgical technique related complication risks remain, which require special attention by the surgeon.

Another prospective clinical study was concluded which focused on the effectiveness of using locking compression plates of various sizes to treat distal radial fractures. Results showed good outcomes both for the 2.4 mm and 3.5 mm locking compression plate distal radius (LCPDR).

ADI's standardized augmentation technique was presented at events throughout 2007, including a symposium of the German Trauma Society (DGU), and received additional positive input from clinicians. Currently, extensions to this CPP are being formulated to ensure a smooth continuation after conclusion of the current projects in 2009.

Following the approval by the Academic Council in December 2006, execution of the CPP "Large Bone Defect Healing" commenced as planned. The program is conducted in close cooperation with several Collaborative Research Centers (CRCs) and renowned universities. The second general meeting in October 2007 showed substantial progress on all projects, and demonstrated a high level of synergy among the research partners. It also paved the way for additional collaborations, and another project in bio-

engineering focusing on scaffolds using the synthetic bone substitute ChronOS.

Certified solutions for better trauma care

The TK-System approved a total of 37 new trauma products and concepts. Among them are the epoca custom offset shoulder prosthesis for replacement of the humeral head, and the expert lateral femoral nail (LFN)—the first nail with a truly lateral entry point that better respects the anatomy of the greater trochanter and its blood supply. Another important approval concerned a novel system for local delivery of antibiotics directly from the implant surface. This could potentially decrease the risk of infection in long bone fractures, especially of the tibia. The first antibiotic-coated implant—UTN PROtect—has already received regulatory approval.

Enriched teaching and materials offerings

The Geriatric Fracture Course was only one of several new courses launched in 2007. Another highlight were the first courses on external fixation and osteotomy in Davos, and the new, case-based AO Specialty Course—Hand featuring a highly interactive format. In the world of print, the second expanded edition of the AO Principles of Fracture Management was released in early 2007. This new two-volume standard work is now being translated into German by the German, Swiss, and Austrian Alumni. Up to nine more languages are planned over the next few years with the support of the respective local AO organizations. In addition, two AO Supplements to Injury were published in 2007, and other publications are in the pipeline.

1/2 During a road-mapping workshop in Davos, participants discuss the road ahead in Trauma activities.

3/4 The new Geriatric Fracture Course addresses the specific challenges in treating elderly patients.



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Strong local and regional engagement

2007 saw a high level of AO activity in virtually all corners of the world as local trauma surgeons invested time and effort to contribute to better patient care.

Europe: growing momentum

In 2007, AO was again present at major European Trauma congresses. At the German Congress for Orthopedic and Trauma Surgery in Berlin in October, it held several well-attended scientific symposia and provided an improved lounge. Another highlight was the symposium on locked internal fixators at Eurotrauma in Graz, Austria, in May.

In addition, the AO Sections in Europe continued their high level of commitment with a number of outstanding events—an overview can be found on pages 34–35. An important new initiative was the German-speaking Faculty Meeting in Davos, held in December 2007. The two day event gathered some 60 residents and senior surgeons from Austria, Germany, and Switzerland. The meeting was a huge success, reaching out to new talents and strengthening cross-country cooperation.

North America: continued progress in education

AO North America (AONA) continued its successful educational program. Highlights in 2007 included several Regional Fracture Summits and back to back Residents' Courses, as well as the popular Geriatric Fracture Course and the new Minimally Invasive Osteosynthesis Course.

Another important addition was the Faculty Education Course. Based on the Tips for Trainers concept, this new format accommodates the specific cultural needs of North American faculty. It was very well received by the 100 high-level faculty attending the first two courses, and two more courses are planned for 2008. The Faculty Development Forum in Scottsdale, Arizona, brought together faculty from all levels to discuss improvements to AO teaching. It also included a highly successful and constructive Chairman and Directors' Symposium specifically addressing their role and requirements, as well as a Faculty Education Course. Eight full-year trauma fellowships were funded in 2007 for the first time. In April 2008, a Fellows' Forum is organized which will bring together many fellows and will allow AONA to identify surgeons with high potential.

Latin America: breaking new ground

In 2007, the Trauma Board of AO Latin America (AOLAT) concluded the selection of country delegates, who significantly contributed to the organization of courses. With 33 AO Courses and four subspecialty courses, the high level of educational activities was maintained. To propose additional value to AOLAT trauma members, the Trauma Board is also driving the translation into Spanish

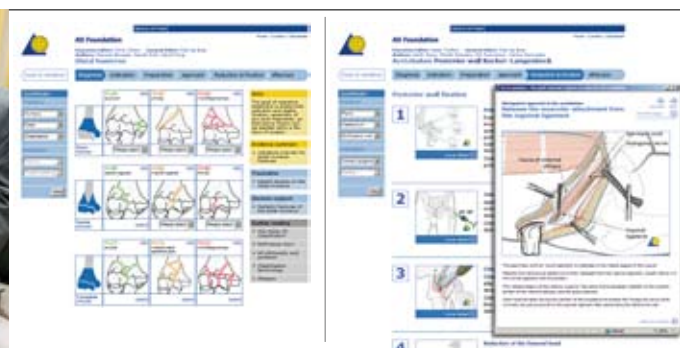
- 1 Participants were enthusiastic about the first German-speaking Faculty Meeting in Davos in December 2007.
- 2 The new Faculty Education Course—here, in Houston—is tailored toward the needs of North American faculty.
- 3 A dedicated faculty team made the first-ever AO Seminar in Cuba a success.



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and Portuguese of e-learning modules and the pre- and postcourse needs assessment.

An important milestone reached was the first-ever AO Seminar in Havana, Cuba. Attended by some 150 participants, the event received excellent feedback and proved a successful platform for forging ties with local surgeons. Building from there, AOLAT will stay in close contact with Cuban surgeons, with the aim of establishing a local AO community in the future. This experience will hopefully be replicated in 2008 in Puerto Rico, which joined the region during 2007.

Asia Pacific: fully operational structures

The inaugural board meeting of AO Trauma Asia Pacific (AOTAP) in April 2007 marked a milestone in the development of this regional trauma organization. Under Chairman Tada-

shi Tanaka, AOTAP is now catering for the highly diverse needs in this large region that stretches from India to as far as New Zealand. A regional faculty pool was established with members from all countries, and a “Starter Fellowship” was initiated. This new format targets surgeons from countries without AO activities, with the aim of establishing a local core group that applies and actively disseminates AO concepts. In addition, a number of implants were developed with specific adaptation for Asian patients (cf p 43).

A networking and educational highlight was the Second AOAA Asian Chapter Symposium on Jeju Island, South Korea, in October. The 200 participants gave high marks to both the scientific and social programs and particularly appreciated the highly interactive debates.

AO Middle East: ready for takeoff

Led by the new Regional Board, AO intensified its activities in the Middle East. A highlight in 2007 was the Regional Course in Dubai, which demonstrated the keen interest in professional medical training in the region. The AO Principles and AO Advances Trauma Courses were fully booked, attracting some 60 surgeons each. In addition, a course was offered for the first time in Sudan, and Libya is expected to host an AO Course in 2008. In anticipation of growing course demand, AO increasingly relies on locally trained faculty. For this purpose, a Tips for Trainers Course was held in Cairo, Egypt, in February 2008—over 30 participants from all specialties made this the largest one ever held in the region.

AOAA—backbone of the international AO network

By the end of 2007, the AO Alumni Association (AOAA) consisted of more than 3,800 members from 96 countries. This represents a 7% increase over 2006, reflecting steady growth since its formation in 1989. In 2007, two new local Alumni Chapters were created in Saudi Arabia and Singapore. Local chapters form the backbone of AOAA, serve as reference points for local surgeons, and frequently initiate AO engagement. This is well illustrated by the Polish chapter, which became highly active in the twelve months after its formation in 2006.

In 2008, the AOAA will play an important role in the definition and implementation of the AO membership initiative, which focuses on strengthening the AO family spirit and providing relevant benefits to AO clinicians worldwide. As a first step, AO Alumni members have already enjoyed important additions to their list of benefits, such as free access to selected medical journals. In conjunction with the anniversary program, three regional Alumni symposia will be held in Greece, Thailand, and Dubai, replacing the former triennial global event.



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AO Surgery Reference: a prized and much-needed tool

Launched less than two years ago, the AO Surgery Reference has become the most popular trauma site worldwide, disseminating the AO Principles to a rising number of surgeons. It has been endowed with prestigious awards in the healthcare sector.

Since its public introduction in April 2006, the AO Surgery Reference has seen user numbers skyrocket. In December 2007 alone, the AO Knowledge Services Team counted more than 220,000 page views by more than 20,500 surgeons, thus measuring up to international trauma benchmark sites. The user base is growing on average 15 percent per month, and preparations are underway to open the site to the Google search engine in 2008.

Although mainly intended for trauma residents and nonspecialized surgeons treating fracture patients, the Surgery Reference is also used by a considerable number of surgeons in poorly equipped hospitals in developing countries. They use the tool to tap into a pool of knowledge they would not otherwise have access to. This underscores the role the new media play in supporting the AO Mission of improved patient care worldwide. To grant access to surgeons in lesser privileged areas of the world, the AO Board of Directors (AOVA) decided in December 2007 to continue this service free of charge.

In addition to the overwhelming feedback from individual users, the Surgery Reference has also received numerous prestigious awards. In 2007, it was decorated with two International Health & Medical Media Awards: the Prize for Best Surgery Medium and the Surgeon General's Award. In addition, it won an eHealthcare Leadership Award for the Best Care/Disease Management Website in the category of "Physician/Clinician-Focused Site", beating more than 1,100 other medical Internet services. It was also recognized with a Horizon Interactive Award for excellence in education.

This runaway success is also due to strict quality assurance. All modules are authored by a team of at least two renowned AO surgeons from different areas of the world. This prevents a local bias in the approaches presented, and ensures the global usability of the site. In addition, the internationally recognized trauma surgeons Chris Colton, Ernst Raaymakers, and Peter Trafton supervise the content as executive editors. Finally, content must first be outlined for, and ultimately approved by, the Specialty Academic Council before release.

With the addition of six new modules in 2007, the AO Surgery Reference may well cover all anatomical regions in trauma before the end of 2008. A first CMF module and translation of the trauma modules into Spanish and Chinese are also underway.

- 1/2 Some 200 Alumni convened at the AOAA Asian Chapter Alumni Symposium on Jeju Island, South Korea.
- 3 The AO Surgery Reference has developed into an important tool for global knowledge sharing.
- 4 Peter Trafton (l.) and Mike Redies proudly present the International Health & Medical Media Award, dubbed "Freddy".

The background is a solid teal color. Overlaid on it are white line drawings. At the top, a hand is shown holding a human skull. Below the hand, a human spine is depicted, showing several vertebrae. The text is positioned in the upper left quadrant, partially overlapping the hand and skull.

With its new membership scheme
and matrix organization, **AOSpine** sets
an example for AO's future.

AOSpine keeps the pace

Throughout 2007, AOSpine pressed ahead with building its organization and global network. In parallel, seminal research was conducted to improve the treatment of severe and widespread spinal defects.



Only one year after becoming officially established as a separate legal entity under the umbrella of the AO Foundation, AOSpine continued to grow and mature at a rapid pace. In 2007, 15 new country chapters were founded and a global matrix organization was consolidated, forming the basis for the recently launched global membership scheme (cf p 21).

A milestone was the strategic planning meeting held by AOSpine International (AOSI) in Breckenridge, USA, in March 2007. This so-called “StratPlan” brought some 30 high-level spine surgeons from all parts of the world together with members of the AO Foundation and industrial partners to define the strategic thrust of AOSpine for the next five years. In a facilitated group process, ten strategic initiatives were agreed, including eg, creating value for members, establishing new standards in education and research, and identifying new revenue streams and partners. Clear objectives and responsibilities were assigned to each initiative, so as to enable an effective follow-up and measurement of success.

Setting standards in spine education

One of the strategic initiatives defined is creating a clear differentiation for AOSpine in spine education worldwide. Responsibility for this topic was assigned to the AOSpine International Education Commission (ASOEC), and some important initiatives have already been launched. For instance, a new Faculty Development Program with a revised syllabus and a novel mix of e-learning and on-site training is ready for rollout in 2008. An impressive milestone was already reached in December 2007 when five parallel spine courses were run at three locations during the Davos Courses—doubling the engagement of AOSpine in this important event.

In addition, a task force has been charged with developing a consistent spine course curriculum, offering an integrated lifelong learning program for spine surgeons. Another challenge is putting together an attractive educational offering for operating room personnel (ORP) to help fully integrate the 250 current as well as future ORP members into the AOSpine community.

The new AOSpine Research Network

2007 saw the establishment of an expanded AOSpine Research Network, which includes the following members:

- Tokai University, Japan
- Hong Kong University, Hong Kong
- University of Eindhoven, The Netherlands
- University of Pennsylvania, USA
- Duke University, Durham, USA
- McGill University, Montreal, Canada
- University of Zurich, Switzerland
- AO Research Institute, Davos, Switzerland

Building on previous research findings, these institutes are now jointly pressing ahead with research into the pathogenesis and treatment of disc degeneration.



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Research continues with fresh vigor

For the past six years, AOSpine has focused its basic research activities on the “Degeneration and Regeneration of the Intervertebral Disc”, which was later formalized as one of AO’s four Clinical Priority Programs (CPP). This program is driven by the AOSpine Research Network (AOSRN), an affiliation of research institutes with a collaborative research approach.

After funding for the previous projects expired in late 2006, a new call for grant applications was issued. 33 applications were screened in a rigorous external review process, before seven internationally renowned institutes were selected to join the new AOSRN. The research focus was widened to include issues like genetic risk factors, magnetic resonance imaging or the use of biomaterials and endogenous progenitor cells for disc repair. Funding started in October 2007, and a number of promising projects are already underway.

Important research initiatives are also driven by the different regions of AOSpine (cf p 19–20). A highlight among them is the cervical spondylotic myelopathy study which was initiated by AOSNA and is now being transferred to an international level. Covering a total of 19 countries, including some in the developing world, this will be the most comprehensive study ever to be conducted on this important clinical problem.

- 1 Over 30 leading spine surgeons convened at the StratPlan meeting to define the future strategy of AOSpine.
- 2 Five parallel AOSpine Courses were held in Davos in December 2007—here, a practical during the Advances Course.

Innovations for improved patient care

In 2007, the AOSpine Technical Commission again approved a number of new products, line extensions, and product modifications. Among them, two stand out for their innovative approach and contribution to enhanced patient benefit.

InSpace is an interspinous process distraction device whose minimally invasive character makes this product highly appealing. It provides a totally reversible way to heal back pain by a decompression of the intervertebral disc, while preserving most of its natural motion. Even if other options become necessary at a later stage, patients can win precious time before a more radical operation has to be considered.

Vertecem is a new system to standardize vertebroplasty in terms of reproducibility by ensuring a consistent viscosity of the bone cement. This makes the procedure much safer in that the cement is not distributed in a too runny state, which might lead to it leaking out into blood vessels or the posterior structures. It also helps the surgeon to quickly get used to the consistent viscosity in this new procedure.

Pioneering research into CSM

Cervical spondylotic myelopathy (CSM) describes the compression of the medulla of the spinal canal in the cervical spine—a widespread clinical problem, especially amongst elderly patients, leading to loss of feeling and neurological function in the limbs. While operative treatment has become the standard, the question of the right surgical approach—anterior vs. posterior—is subject to heated discussions.

To compare the outcomes of these two options, AOSpine North America (AOSNA) initiated a multicenter study including over 300 patients at 13 US hospitals. Enrolment was completed in 2007, and initial results are currently being evaluated. Due to its high relevance and interest to the spine community, AOSpine is advancing this important research in an international context. Building on the existing study design, the international CSM study will cover additional aspects, eg, understanding the effect of regional anatomic differences.



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A truly global spine community

To coordinate its activities worldwide, AOSpine has established strong regional boards with the same organizational structure and competencies. Besides organizing regional education and events, many are promoting remarkable research initiatives.

Europe: fresh wind from the East

It was all change at AOSpine Europe (AOSEU) with the election of a completely new board under the leadership of Marinus de Kleuver, who succeeded Dietrich Schlenzka as chairman. The aim of this rejuvenated team is to drive forward future activities in this region which is experiencing dynamic growth, especially in Eastern Europe.

In 2007 alone, five new country chapters were founded in Bulgaria, Romania, Hungary, Slovakia, and Slovenia, and interest in professional surgical training in these countries is high. In order to cater for this demand and to develop a pool of local teachers, AOSpine organized a Tips for Trainers Course specifically for Eastern European faculty in Budapest in January 2007.

AOSEU is also active in research through its Research Committee, which has launched three studies: One investigates the development of a comprehensive spine outcomes instrument; the second compares three different surgical strategies for low-grade spondylolisthesis; and the third looks at the effect of spinal stenosis and its operative treatment on patients' quality of life compared with total joint replacement.

North America: successful research initiatives

AOSpine North America (AOSNA) also elected a new chairman in 2007, with Bob McGuire taking over from Eric Woodward. In addition, the AOSNA Board created two new committees: the International Relations Committee, which will foster educational and cultural exchange with other AOSpine regions; and the Healthcare Advocacy and Economics Committee, charged with developing policies and position papers on healthcare issues.

The AOSNA Research Committee is currently running two prospective studies. One compares surgical and conservative management of geriatric odontoid fractures (GOF), while the other assesses different surgical techniques in treating cervical spondylotic myelopathy (CSM). For both of these clinical problems, retrospective multicenter studies are also in the planning stage. The CSM study received a great response when presented at the 2007 meeting of the Cervical Spine Research Society, and will be advanced by AOSpine International on a global level (cf p 18).

A highlight in 2007 was the 5th AOSNA Banff Fellowship Forum, which once again provided an excellent networking opportunity. Participants included 23 fellows and 22 fellowship directors, who appreciated the chance to interact with peers from other institutions and foster alliances with esteemed faculty and experts in spine surgery from across North America.

1 A Tips for Trainers Course was held for Eastern European faculty in Budapest, in response to the dynamic growth in this region.

2 The Banff Fellowship Forum provided an excellent platform for professional exchange across generations.

3/4 The joint symposium by AOSNA and AOSAP in Hong Kong brought together opinion leaders from both regions.



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Latin America: first pan-regional initiative launched

AOSpine Latin America (AOSLA) appointed Marcelo Gruenberg as its new chairman, replacing Luiz R Vialle, as well as electing three new members of the Board. With the foundation of three new country chapters in Costa Rica, Guatemala, and Panama, the region continued to grow at a fast pace over the past twelve months.

To professionally manage this growth, a new AOSLA office was established in Curitiba, Brazil, and inaugurated in October 2007. From here, a dedicated team of four employees provides direct and timely support for all AOSpine activities in the region. In 2007, AOSLA organized five spine courses throughout Latin America, and was present at three major events in Brazil and Mexico.

Besides its educational activities, AOSLA has initiated a research project focusing on the treatment of spinal deformities as a result of tuberculosis. As opposed to Europe or the USA, tuberculosis is still a very widespread clinical problem in Latin America. Though primarily a respiratory disease, it can lead to severe spinal deformities as secondary damage. In 2007, the Latin American Spine Research Committee developed a protocol for a spine tuberculosis study, which will be the first such pan-regional research project.

Asia Pacific: restructured Board, recognized members

The AOSpine Asia Pacific (AOSAP) Board has been restructured, bringing the organization into line with other regions of AOSpine. Five pan-Asian Committees (Chairpersons, Education, Marketing, Research, and Reference Centers) were created to leverage ideas and drive forward policies in their respective fields. In addition, AOSpine East Asia was formally established as a sub-region of AOSAP.

Besides organizational changes, AOSAP continued to expand its educational offerings for spine surgeons in this large and highly diverse region. Three new AOSpine reference centers were opened in 2007, providing additional opportunities for fellowships in India, Japan, and China. In collaboration with

AOSpine North America, AOSAP also organized a symposium in Hong Kong to facilitate advanced interactions between opinion leaders from the two regions.

Venugopal KV Menon from India was elected the new chairman of AOSAP. In March 2007, former Chairman Keith Luk received special acknowledgement with a publication in *The Lancet*, one of the oldest and most influential peer-reviewed medical journals in the world. In a paper titled "Intervertebral disc transplantation in the treatment of degenerative spine disease", he described the positive, preliminary outcomes in the transplantation of freshly frozen discs in five patients.

Middle East: shaping up for the future

During the past twelve months, the team of AOSpine Middle East (AOSME) made constructive steps toward applying for Regional Board status. Three official future board positions were created, and Zayed Al-Zayed from Saudi Arabia was named as chairman-elect.

Part of the move to regional status was the foundation of four new country chapters in Egypt, Saudi Arabia, Iran, and the Gulf States, which also illustrates the keen interest in the region to have a professionally managed spine body in the Middle East. Education remains the greatest priority, so AOSpine is already organizing a number of dedicated spine events. Among the highlights in 2007 were the Combined Regional Courses in Dubai, which included a highly successful spine course attracting some 36 participants from seven different countries. In addition, Neill van der Linde was hired as Regional Director with a mandate to build up a team to provide support for all AOSpine activities in the region.

- 1 The newly established AOSLA office in Brazil supports AOSpine activities in Latin America.
- 2 A spectacular fire display accompanied the official launch of the new AOSpine membership in Davos.
- 3 New membership benefits include the recently launched MyAOSpine magazine.



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New membership off to a great start

After its official launch in December 2007, the new AOSpine membership with its customized member packages and transparent progression system has already proven itself to be successful.

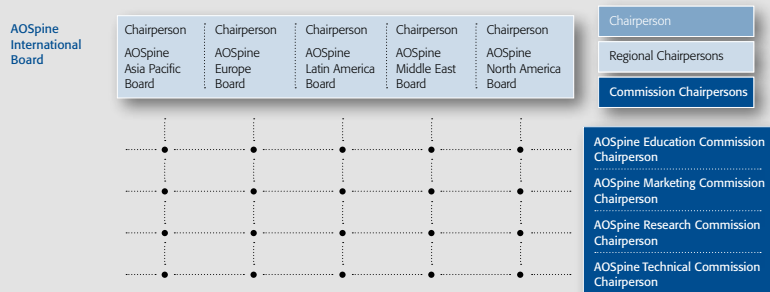
December 9, 2007, saw the official launch party of the new AOSpine membership. Some 300 guests gathered to celebrate the event and braved sub-zero temperatures to watch an outdoor display by fire artists—culminating in the eruption of two-meter high flames spelling out “Join AOSpine”. This spectacular celebration was the peak of long and careful preparations to ensure a successful introduction of the new membership.

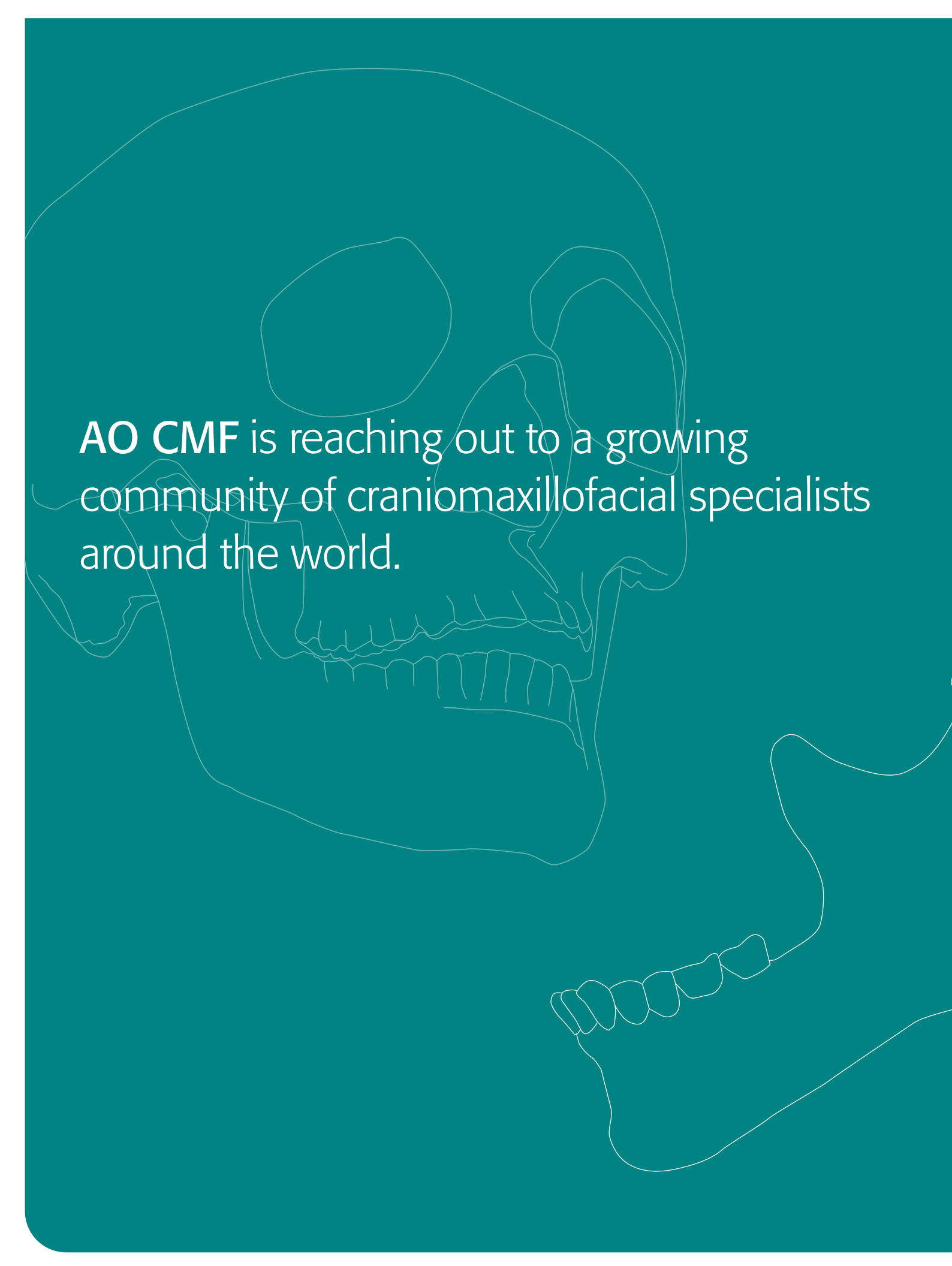
In early 2007, AOSpine announced its plans to convert to a subscription-based membership system with the aim of continually offering more benefits to spine surgeons. Three different packages were designed—Basic, Classic, and Professional—each offering a selection of services catering to different needs. Among the highlights are a newly revamped AOSpine website including community features, a collection of webcasts covering lectures, practical exercises and live surgery, and three dedicated publications—MyAOSpine, InSpine, and Evidence-Based Medicine. While members receive these publications in print, eMembers can download them in electronic format and benefit from a reduced membership fee.

Regardless of the package chosen, members can progress through a simple system of membership levels—Bronze, Silver, Gold, and Platinum. Each of these levels is assigned a defined points value, and points can be earned by actively contributing to AOSpine. The new membership system is already proving to be highly attractive. In the first two months since its inception, more than 800 spine surgeons from 35 different countries registered to become part of this global spine community.

A complex but transparent matrix

The success of AOSpine starts at the grassroots with the ongoing creation of AOSpine country chapters allowing members to engage in their own local organization. Regional Boards are put in place to foster pan-regional exchange and provide governance. The regional chairpersons all sit on the AOSpine International Board, which ensures that ideas are shared and leveraged on a global scale. At all three levels, the Boards are supported by a consistent set of five committees with responsibility for Chairpersons, Education, Marketing, Research and Reference Centers. This complex but highly transparent matrix structure is the backbone of the new AOSpine membership.

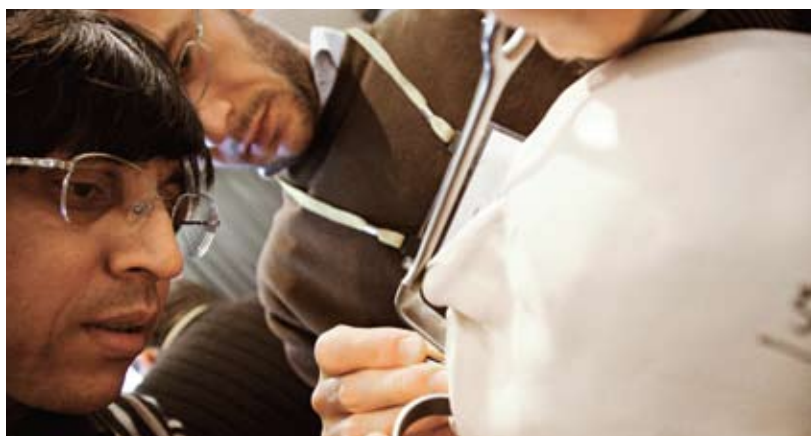


The background is a solid teal color. Overlaid on this is a white line-art illustration of a human skull and jaw. The skull is shown in a three-quarter view, facing right. The jaw is shown below the skull, with the teeth clearly defined. The line art is simple and clean, focusing on the basic shapes of the bone structure.

AO CMF is reaching out to a growing community of craniomaxillofacial specialists around the world.

Building a global CMF community

In response to a rising demand for specialized CMF education in many regions of the world, AO CMF is expanding its network and course offerings. To support the activities of this growing community, a new membership system is underway.



The major current challenge for AO Cranio-maxillofacial (AO CMF) is establishing its new membership for global networking, knowledge exchange, and transfer of best practices. In line with the current membership initiative of AO, this new AO CMF membership takes into consideration the specific needs of CMF clinicians.

An attractive bundle of benefits

Members will enjoy a range of exclusive benefits, including complimentary and discounted publications. The latest addition is free-of-charge online, full text access to selected premium CMF journals. In April 2008, AO CMF will host the first-ever members' event with an anniversary symposium in Halkidiki, Greece.

Condylar neck study

AO Clinical Investigation and Documentation (AOCID) conducted an international study investigating the outcome of different treatment options for condylar neck fractures. The final report of this randomized control trial was presented in November 2007. The results show that endoscopic assistance of the transoral approach for internal fixation of this fracture does not lead to improved functional results. However, it does lead to better cosmetic outcome and fewer complications, especially facial nerve injury.

AO CMF members also have access to a privileged area and individually customized content on the CMF Portal. Launched in 2006, this portal has already established itself as an important platform for the community. In addition, a mandible module is in preparation and will be the first CMF module on the AO Surgery Reference, AO's prized online repository of surgical knowledge.

Growing reach, improved products

During the past year, AO CMF stepped up its educational offerings and reached out to new audiences, eg, in Hungary, Kenya and Sudan. November 2007 saw an AO Principles Course and an Advances Symposium in Bangalore—the first AO CMF Courses held in India since 1996. The majority of faculty stayed on as invited speakers for the following International Conference on Oral and Maxillofacial Surgery (ICOMS), which attracted a total of 1,600 participants.

Another highlight in education was the international faculty retreat held in August in Kota Kinabalu, Malaysia. Bringing together more than 40 faculty members from all over the world, this event will spur on the enhancement of future CMF education. An important milestone was also reached in research with the approval of the Clinical Priority Program "Imaging and Planning of Surgery" (cf p 25).

In 2007, a number of new CMF products were approved by the AO TK-System. Highlights include the MatrixMIDFACE system, which offers one single screw diameter for use with four plate strengths, as well as the Matrix-NEURO system with improved self-drilling screws that can be used in a range of low-profile plates. The new SynPOR sheets for orbital floor and wall defects are made out of porous polyethylene and will come in various shapes, some also containing titanium mesh.



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Clearly structured, highly active regions

With a total of 59 courses, workshops, seminars and symposia worldwide, 2007 was a busy year for CMF. The clear regional structure—now complete after the establishment of the Middle East Region—helped coordinate this multitude of events, and ensured that many will be remembered as highlights.

Europe: Italy in the limelight

2007 saw the first AO CMF Course in Hungary. In Austria, the first AO CMF cadaver course was held at the Anatomical Institute of Vienna, giving participants an opportunity to practice and enhance their surgical skills. Attracting close to 100 participants, the AO CMF Advances Symposium in Naples, Italy, constituted another highlight. It was preceded by a one day Expert Symposium on distraction osteogenesis, jointly organized with the TK-System. Italy will stay in the limelight in 2008 thanks to a Jubilee Symposium planned at the Meeting of the European Association for CMF Surgery (EACMFS) in Bologna in September.

North America: expanding education

North America expanded its educational offerings for CMF surgeons with two Orbita Principles Courses held in April and November 2007. A high participation rate and very positive feedback confirmed the relevance of this new format. Other highlights in 2007 included the highly successful AO Advances Course in Tahoe and a symposium on Challenges and Advances in Microvascular Reconstruction in Baltimore—the first symposium to address this important topic. In February 2008, AO CMF North America started the jubilee year with an AO Advances CMF Course in Snowbird, Utah.

Latin America: new names, novel initiatives

In Latin America, 2007 brought some new faces: Ricardo Cienfuegos was elected chairman of the board for AO CMF Latin America, succeeding Marcelo Figari, while Nicolas Homsí and Rolando Prada joined as new members. A total of six courses and five Advances Seminars were held, including the first AO CMF course in Peru after a break of eleven years. AO CMF also took an active part in the Research Event in Cancun, Mex-

ico, organized by AOLAT in order to pave the way for regional research activities. The result is an initiative for research into osteoporosis and defects in the mandible—a clinical problem typical for the region.

Asia Pacific: united under one roof

During the board meeting held in August 2007 in Kota Kinabalu, Malaysia, the CMF group of AO Oceania joined AO CMF Asia Pacific (AO CMF AP), which now integrates the entire region under one roof. The meeting was preceded by a Tips for Trainers Course organized specifically for Asian CMF faculty. To further coordinate the regional faculty pool and CMF Courses, an AO CMF AP Education Committee was founded. Also planned is an AO CMF AP working group to spur the development of CMF products specifically designed for Asian patients. The Jubilee Symposium planned for September 2008 in Chiangmai, Thailand, will be a great opportunity for the CMF community in Asia Pacific to meet again.

Middle East: a milestone reached

In 2007, an AO CMF Region Middle East (AO CMF ME) was established under the leadership of newly elected Chairman Mustafa Hemeda. The region is already active in CMF education, with a number of successful events held in the past twelve months. A highlight was the Regional Course in Dubai, which included a CMF Course with over 30 participants. To coordinate future educational activities, a regional education concept is in the making. Courses planned for 2008 include an AO Advances Seminar in Egypt and an Advances Course in Jordan. AO CMF ME will also join in the AO's anniversary celebrations with a Jubilee Symposium in Dubai in October.



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- 1 Daniel Buchbinder speaks at the highly successful AO CMF Advances Course in Tahoe, USA.
- 2 The Advances Symposium in Naples, Italy, also provided an opportunity for visiting the historic surroundings.
- 3 A Tips for Trainers Course was organized specifically for Asian CMF faculty in Kota Kinabalu, Malaysia.
- 4 2007 saw the first AO CMF Course in Peru after a long break.
- 5 An important regional research initiative was launched at the AOLAT Research Event in Cancun, Mexico.

CPP in full motion

Aimed at improved anatomical reconstruction of hard and soft tissue in the facial area, the CPP “Imaging and Planning of Surgery” has already produced preliminary research results, and is now moving swiftly ahead.

Immediately after its approval by the Academic Council in early 2006, the program kicked off with a call for grant applications by the AO Research Fund. So far, six projects have been funded, eg, in orbital reconstruction, and some are already producing promising interim results (see info box).

While initially focusing on facial reconstruction, the CPP retains an interest in other AO research activities. Collaborative links have been established with the CPP “Large Bone Defect Healing”, which shares a number of research interests, albeit with a different bias.

A good example is microvascular bone flaps which can be used to reconstruct bone defects—be it in the leg or in the face. Ultimately, the CPP is expected to advance patient care not only in CMF but in all AO specialties.

In December 2007, the CMF Board approved the project document. Written by 24 internationally renowned authors and covering a broad range of topics—from image acquisition through navigation to quality of life—it gives a full account of the current status quo in the field of imaging and planning. The document is currently in peer review. Pending approval by the Academic Council, it will be published in early 2008 and form the basis for further research into this important clinical topic.

Facilitating repair of orbital fractures

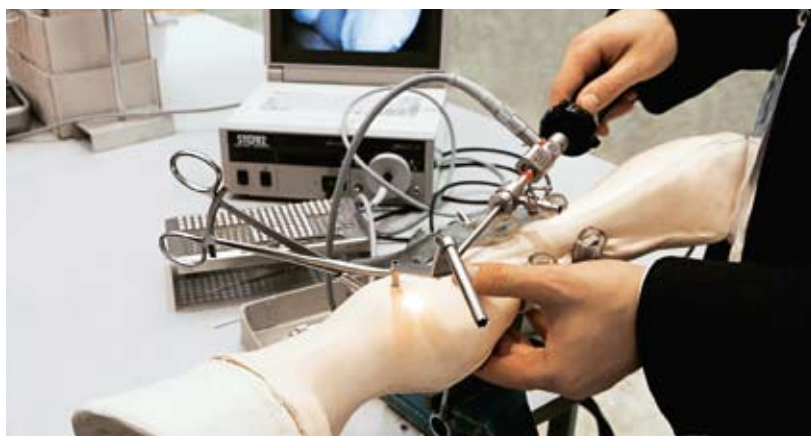
Repair of complex orbital fractures currently relies on freehand shaping of a flat titanium graft—a challenge even for experienced surgeons. In cooperation with the AO Development Institute (ADI), an R&D project was launched investigating the feasibility of 3-D anatomically pre-shaped implants. Deploying advanced image analysis techniques on computed tomography (CT) data of 70 patients, it showed that the definition of categories of orbits with sufficiently small inter-individual variations is possible.



Further advancing the treatment of animal patients, **AO VET** has taken the lead in promoting more ethical use of animal models.

Building the pillars of future network growth

In addition to strengthening its educational offerings and driving further advances in veterinary surgery, AO Veterinary (AO VET) was busy laying the foundation for an attractive new membership scheme.



The newly formed Specialty Academic Council (SAC) AO VET embarked on several initiatives to further enhance the current offerings and structures. A main focus was membership management. This initiative aims to facilitate member administration and individually tailored offers. To identify the most suitable scheme for AO VET, the SAC also evaluated the plans and current practice of other AO specialties. A decision on a specific membership model is expected in due course, allowing the current community of 180 members to grow in the future.

To further attract talented veterinary surgeons, the SAC is preparing a new bundle of benefits. This includes the online classifica-

tion of fractures in the horse—one for dogs and cats will be introduced at a later date—and targeted support in preoperative planning. Another current project is the first veterinary module to be launched on the AO Surgery Reference. It will focus on treatment of ulnar fractures in the horse. Free-of-charge subscriptions to leading veterinary journals are also being evaluated.

New peak in educational activities

AO VET continued to expand its educational offerings in both quantity and geography. In addition to 14 dedicated veterinary courses, it held six full day student workshops and six half day workshops to train participants in new procedures and the use of new products. Two special highlights were a first, highly successful symposium in Shanghai, China, and the first AO VET Course in Cartagena, Colombia—the second ever in Latin America. Both events are springboards for expanded activities in these regions.

AO VET also started to overhaul its existing courses. The AO Course—Principles in Small Animals was revamped, including the production of new video material. AO Advances Courses on the treatment of fractures in the fore and hind legs of small animals are in preparation, as are AO Masters Courses. A review of the content and structure of large animal courses is also in progress.

Successful knowledge transfer

In 2007, the TK-System approved five new veterinary products. An important innovation is the 3.5 mm broad locking compression plate (LCP) system featuring a central, stacked combination hole at one end which facilitates treatment of metaphyseal fractures. Another highlight is the clamp/rod internal fixation (CRIF) system for small animals. Thanks to its modular setup, it is easily adaptable for treatment of different fracture types of multiple species and sizes.

Dedicated veterinary research

AO VET also conducts and supports research relevant for veterinary surgery. An area of growing interest is bone anchors, which help to reattach ruptured tendons or ligaments to the bone. While some products exist on the market, AO VET sees scope for further improvement, including the potential use of biomaterials. An experimental study conducted in collaboration with the AO Research Institute (ARI) was completed in 2007. It compared locking and conventional screws on the maintenance of tibial plateau leveling osteotomy (TPLO) and biomechanical stability following TPLO plate fixation.



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Closing the gaps on the AO VET world map

AO VET continued its successful activities in the traditional strongholds of Europe and North America, while also reaching out to new geographic areas.

Europe: going multilingual

The annual meeting in Aying, Germany, was very well received by the 28 participants from Austria, Germany, and Switzerland. Another success was the AO VET Equine Principles Course in Cremona, Italy, in October. Held in English, it convened some 40 veterinarians from all over Europe. AO VET plans to run this course at least once a year somewhere in Europe, with the next event planned for June 2008 in Madrid, Spain. In the UK, a local AO VET organization was formed in 2007, which will take on the planning of further English-speaking courses. The first AO VET Course in Turkey and an AO jubilee event at the European College of Veterinary Surgeons (ECVS) Meeting in Basel, Switzerland, are planned for 2008.

North America: bustling activity continued

A perennial highlight was the AO VET Principles Course in Small Animals and AO VET Advances Courses in Equine and Small Animals in Columbus, Ohio. Equally popular were the three courses in San Diego, California, introduced in 2006, which attracted some 150 participants including some from overseas. AO VET continued another suc-

cessful course format in the student course in Guelph, Canada. On the research side, a multicenter study was completed in 2007 on the tibial plateau leveling osteotomy (TPLO) in dogs. Publication of results is expected in 2008. AO VET will join in the Foundation's anniversary celebrations with a jubilee event in Chicago, USA, at the American College of Veterinary Surgeons (ACVS) Meeting in October 2008.

Latin America: highly welcome AO activity

The second course in Latin America was held in Cartagena, Colombia, in August. This Small Animal Course received excellent feedback from the participants, who appreciated the performance of the first-class faculty. Run in parallel with an AO Foot and Ankle Course, the course also allowed for a fruitful exchange with surgeons who operate on humans. AO VET will continue its activities in the region with an AO VET Principles Course in Buenos Aires, Argentina, in August 2008. It aims to gradually step up its educational offerings, and build a strong local community within the next few years.

Asia Pacific: moving into China and beyond

China was the venue of the first AO VET activity in Asia Pacific. The symposium held in Shanghai in June focused on current concepts and trends in fracture management in small animals. Conducted in English and partially translated into Chinese, it was met with great interest by the attending 90 veterinarians and students including 15 faculty members from universities across China. The symposium was organized with support from the European School for Advanced Veterinary Studies (ESAVS)—which proved to be a highly successful cooperation, in part because of their excellent local connections. AO VET will strengthen its presence in the region with AO VET Small Animal Courses in China and Japan in 2008.



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Toward international standards for effective and ethical animal models

AO VET has continued to drive the development of standards for effective and morally acceptable use of animal models in fracture research. While a lot remains to be done, this initiative has laid the groundwork with a first consensus reached by researchers, veterinarians, legal experts, and ethicists.

Concerned about the increase of experimental animal models, often paired with poor study designs and unsatisfactory research outcomes, AO VET took the lead in establishing a multidisciplinary platform to define international standards for the use of animal models in fracture research. AO VET does not per se condemn the use of animal models as these may also benefit animal patients; rather, it calls for stringent international standards to ensure the right models are used in the most effective way, reducing the often high morbidity and mortality rates observed today.

With support of the AO Research Institute (ARI) and the European Academy for the Study of Scientific and Technological Advance, AO VET organized a workshop in 2006 that convened researchers, veterinarians, legal and ethics experts to discuss ways of maximizing animal welfare and scientific validity of in vivo experiments. A summary of the consensus reached was published in 2007.

Refining research design and execution

The specialists involved proposed a catalog of rules and requirements for the conduct of animal experiments. Among others, they stipulated clear selection criteria to restrict studies to models providing the highest scientifically relevant output, directly transferable to humans. They also proposed measures to reduce animal suffering, including the development of objective pain assessment systems, anesthesia and pain management protocols appropriate for each species, and clear termination criteria defining when animal suffering no longer justifies the scientific value. Further measures proposed are expected to take complication rates down to around 5%. Last but not least, worldwide harmonization of standards is needed to prevent researchers from exporting studies to countries with less rigorous legal frameworks and in doing so prevent unethical suffering of animals.

Providing expert opinion to non-veterinarians

In recognition of its expertise and lead role, AO VET is receiving a growing number of requests for expert advice on the use and design of animal models, namely from commercial companies specializing in biomaterials and newly designed implants. Because AO VET members are also instrumental in two of the most recognized international associations of specialists trained and tested in veterinary surgery, the European and American Colleges of Veterinary Surgery are also pursuing the same goals. AO VET will continue this important initiative with a congress in Lausanne, Switzerland, in October 2008, as numerous issues and controversies remain yet to be solved.

- 1 2007 saw a large number of AO VET Courses in Europe—here, the Small Animal Masters Course in Davos.
- 2 AO VET continued its activities in Latin America with a Small Animal Course in Cartagena, Colombia.
- 3 Introduced in 2006, the AO VET Courses in San Diego, USA, have become very popular.
- 4 In 2007, AO VET moved into Asia Pacific with a highly successful symposium in Shanghai, China.



The global AO **network** has experienced further growth, and seen the emergence of a fresh new community spirit.

Growing network, enduring spirit

Throughout the past five decades, AO has grown from a group of 13 surgeons to a global network of more than 10,000 individuals dedicated to the AO cause. Two factors have supported this development—an organization flexible enough to adapt to growth, along with a spirit of camaraderie.

AO stands for “Arbeitsgemeinschaft für Osteosynthesefragen”, a German title which describes a group of people working closely together and striving towards a common goal. This small group which was founded by 13 members has over the past 50 years grown into a global network which includes over 10,000 surgeons and operating room personnel. Professionally managing this network yet maintaining the character of a “community of common purpose” is a major challenge.

Active involvement at all levels

In order to engage network members at all levels, AO has developed comprehensive knowledge and networking services. Beyond participating in one of over 400 AO Courses held annually, young surgical talents can get involved as members of the AO Alumni Association, engage in research projects and clinical studies, or participate in one of the fellowship programs offered. At a later stage, surgeons may disseminate their own knowledge as an AO table instructor or faculty member, or play an active role in an AO Region or Section. Experienced surgeons are invited to serve on an AO Board or Committee, or even to become a Trustee of the AO Foundation.

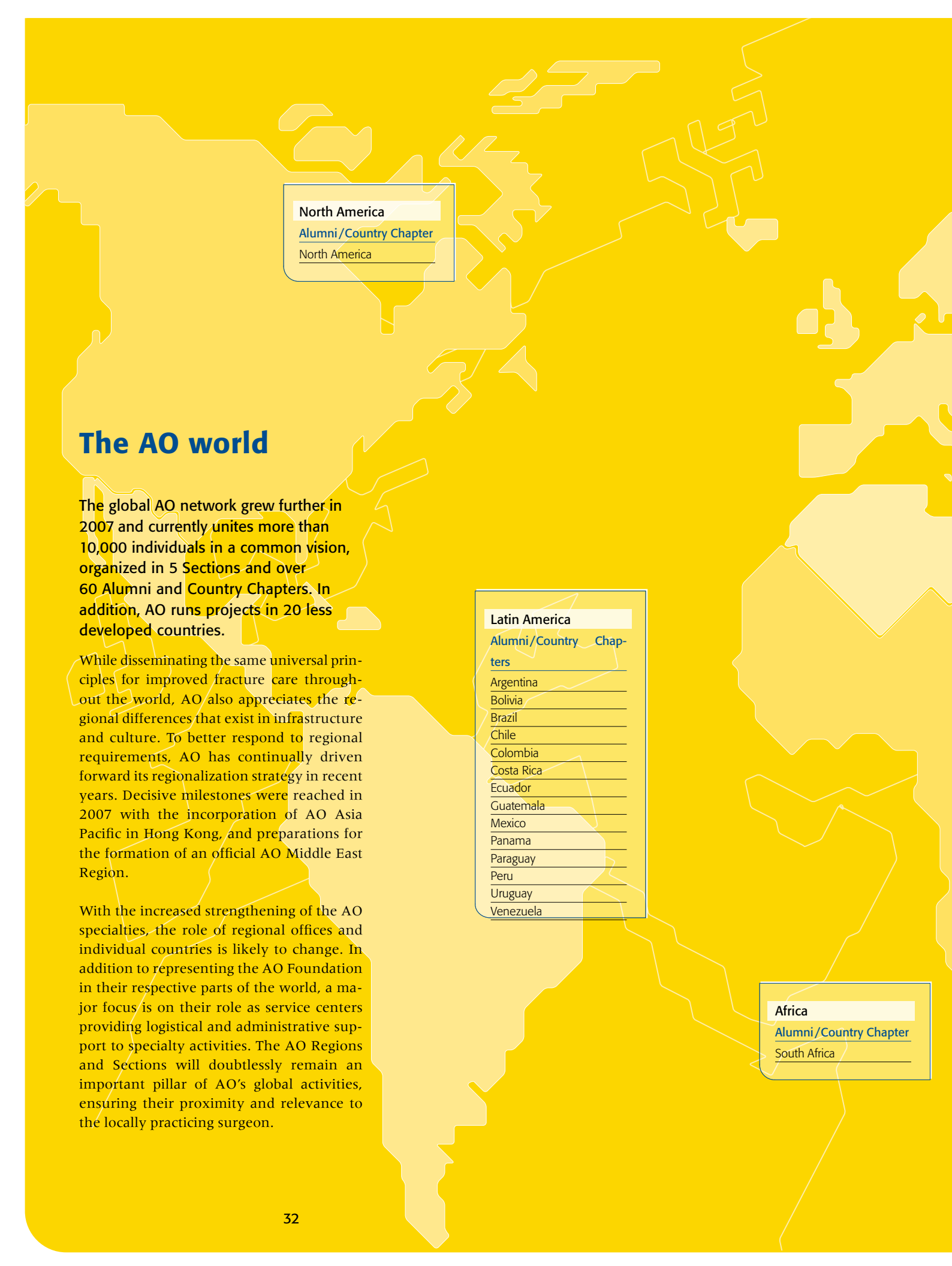
AO is currently working on a new membership management scheme in order to better cater for the individual needs of members at each stage of their career. Details regarding structure and design were developed in 2007, and implementation of the new management system and supporting IT solution is high on the agenda for 2008.

The legendary AO Spirit

The AO network is tied together by a strong feeling of mutual respect, willingness to give and take, and a zeal for a common aim—enhancing patient care in the treatment of fractures and disorders of the musculoskeletal system. AO actively seeks to strengthen this social component through a number of joint activities and regular face-to-face encounters. A mentorship culture fosters exchange across cultures, disciplines, surgical specialties, and generations. The result is often a lifelong personal friendship that goes far beyond professional interest but ultimately benefits the patient as new ideas and initiatives are sparked.

Often dubbed the “AO Spirit”, this feeling of camaraderie has been sustained throughout the first five decades of AO’s existence. While responding to the changing realities of a growing network, this spirit has remained the enduring component at its core.

[The following chapter gives an overview of the AO network and its development in 2007, highlighting cross-specialty activities and events. Activities related to individual specialties can be found in the respective specialty chapter.](#)



North America
Alumni/Country Chapter
North America

The AO world

The global AO network grew further in 2007 and currently unites more than 10,000 individuals in a common vision, organized in 5 Sections and over 60 Alumni and Country Chapters. In addition, AO runs projects in 20 less developed countries.

While disseminating the same universal principles for improved fracture care throughout the world, AO also appreciates the regional differences that exist in infrastructure and culture. To better respond to regional requirements, AO has continually driven forward its regionalization strategy in recent years. Decisive milestones were reached in 2007 with the incorporation of AO Asia Pacific in Hong Kong, and preparations for the formation of an official AO Middle East Region.

With the increased strengthening of the AO specialties, the role of regional offices and individual countries is likely to change. In addition to representing the AO Foundation in their respective parts of the world, a major focus is on their role as service centers providing logistical and administrative support to specialty activities. The AO Regions and Sections will doubtlessly remain an important pillar of AO's global activities, ensuring their proximity and relevance to the locally practicing surgeon.

Latin America

Alumni/Country Chapters

Argentina

Bolivia

Brazil

Chile

Colombia

Costa Rica

Ecuador

Guatemala

Mexico

Panama

Paraguay

Peru

Uruguay

Venezuela

Africa

Alumni/Country Chapter

South Africa

Europe**Sections**

AO Austria
AO Germany
AO Spain
AO Switzerland
AO UK

Alumni/Country Chapters

Austria	Hungary	Serbia
Belgium	Ireland	Slovakia
Bulgaria	Israel	Slovenia
Czech Republic	Italy	Spain
Denmark	Netherlands	Sweden
Estonia	Norway	Switzerland
Finland	Poland	Turkey
France	Portugal	UK
Germany	Romania	
Greece	Russia	

Middle East**Alumni/Country Chapters**

Egypt
Gulf States
Iran
Jordan
Lebanon
Libya
Saudi Arabia

Asia Pacific**Alumni/Country Chapters**

Australia
China
Hong Kong
India
Japan
New Zealand
Singapore
South Korea
Sri Lanka
Taiwan
Thailand

SEC activities

Through its Socio Economic Committee (SEC), AO together with local partners runs a number of development projects in the following countries:

Latin America

Brazil
Mexico

Africa

Cameroon
Ethiopia
Ghana
Kenya
Malawi
Mozambique
Tanzania
Uganda
Zambia
Zimbabwe

Asia Pacific

Fiji
India
Indonesia (Bali)
Nepal
Pakistan
Papua New Guinea
Philippines
Solomon Islands



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Regions and Sections: supporting the AO cause around the world

The AO Regions and European Sections are an integral part of the global AO network. The highlights of local and regional cross-specialty activities are presented below, while specialty-specific events are presented in the respective specialty chapters.

News from the AO Sections: Attractive courses in Austria

AO Austria (AOA) expanded its successful courses with cadaveric exercises to four locations. Held in English, the new courses attracted participants from all over Europe who have no access to similar courses in their home countries due to different regulatory frameworks.

At the Annual Meeting in November 2007, Hansjörg Wyss and the late AO Founding Member Martin Allgöwer received honorary AOA memberships. The meeting coincided with the inauguration of a new research and teaching building of the University of Salzburg, made possible through a personal donation by Hansjörg Wyss.

A busy year in Germany

AO Germany (DAO) had a packed year with a total of 48 events. A highlight was the German Alumni Meeting in Düsseldorf. With an excellent scientific program, it attracted some 80 participants, including five ORP members. A full-time manager has been appointed to the national branch office in Berlin, and future courses will be coordinated from there.

2007 saw the publication of two research projects sponsored by DAO. Six new applications are currently under review.

May 2008 will see the traditional D-A-CH Meeting in Dresden, where members of AO Germany, Austria, and Switzerland will gather to celebrate AO's 50th anniversary.

Successful events in Switzerland

AO Switzerland (AOCH) received excellent feedback from the 80 participants in the sixth Swiss Residents' Course in Davos. Under the motto "Hands on, eyes on", the event focused on different anatomical regions and gave residents access to experienced surgeons. Another highlight was the third Senior Swiss Residents' Course in Fribourg in September.

The traditional courses for students were held in Davos in January 2008, giving medical students from Swiss universities an insight into the work carried out at the AO Center. This event is an excellent platform for making AO known among young health-care professionals and establishing first links with possible future members.

First Tips for Trainers Course in Spain

AO Spain (AOES) offered nine courses in 2007, including AO Principles, AO Advances, and ORP Courses in addition to an AO Specialty Course—Pelvis with a cadaver workshop. A first-time event for Spain was the Tips for Trainers Course in Toledo, attended by 24 orthopedic and CMF surgeons from Spain, Portugal, and Latin America.



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The Spanish Alumni Chapter conducted its traditional two scientific meetings in La Coruña and Barcelona. At the AOES Annual Meeting in November 2007, AOES presidency was handed over from Victor Alvarez to Joan Giros.

Innovative approaches in the UK

The second AO Current Concepts Course in April 2007 featured a good mix of lectures, practical sessions, and discussions. The first exchange under the new "Faculty Fellowship", which enables faculty to attend one another's units and share experiences, was also held in 2007.

New AOUK President Paul Szypryt, who succeeded John O'Dowd, launched a research priority setting initiative. Through a moderated process, a group of leading UK trauma surgeons defined the future focus of AOUK's research activities—the use of locking plates in wrist fractures in adults and children.

News from the AO Regions: North America: the first 15 years

In its 15th year, AO North America (AONA) achieved record numbers in education. Faculty now exceeds 1,200 members who taught some 3,000 participants at over 50 educational events in 2007. AONA will contribute to AO's anniversary program with a Jubilee Symposium at the OTA Annual Meeting in Denver in October 2008.

In 2007, AONA Trustees passed an organizational amendment to expand the committee structure, eg, with a new Research Committee, and better serve the needs of the region. Over recent years, the organization also underwent significant changes to comply with the recently tightened guidelines for Continuing Medical Education (CME). These included the establishment of a new AONA office with its own staff and infrastructure, and the nomination of a new CME Director. In recognition of these efforts and continued excellence in their educational offerings, AONA has received an unconditional four year reaccreditation (cf p 42).

Latin America: driving regional integration

In June 2007, Carlos Sancineto took over the

presidency of AO Latin America (AOLAT) from Fiesky Nuñez. He will further promote integration of the region which Puerto Rico recently joined.

The Executive Board met four times in 2007 to develop regional administrative infrastructure and horizontal strategies for research and education. Important initiatives in this respect were the Faculty Retreat in Cancun, Mexico, aimed at improving regional research and clinical investigation, and the Tips for Trainers Course in Panama—both of which had active participation from all the specialties. In April 2008, AOLAT will hold a Jubilee Symposium in Iguazu, Argentina.

Asia Pacific: a milestone reached

A new organization for the recently integrated AO Asia Pacific (AOAP) was established in 2007. All of the specialties represented in the region now have their own governing bodies whose chairmen—Tadashi Tanaka (Trauma), KV Menon (AOSpine) and TC Lim (CMF)—jointly make up the regional coordination board.

Another milestone was the official incorporation of the AOAP regional office in Hong Kong, which provides support for all AO activities in Asia Pacific. Two major events took place in China in 2007—the Trustees Meeting in Beijing and an AO Parallel Symposium in Shanghai, which included Trauma, Spine, CMF, and Veterinary events. A Jubilee Symposium at the SICOT Triennial World Congress in Hong Kong and the Regional Combined Courses in Chiangmai, Thailand, will be held in 2008.

Middle East: a region is born

AO has long been active in most countries of the Middle East. August 2007 saw the fourth Regional Course in Dubai, which included AO Principles and AO Advances Trauma Courses, as well as Spine and CMF events. The keen interest of over 180 participants hailing from 17 different nations underscores the significance of this region for AO. In 2007, the inaugural meeting of AO Middle East (AOME) took place in Jeddah, Saudi Arabia. Currently, a charter is being formulated, and AOME is expected to become an official AO Region in 2008.

- 1 The German Alumni Meeting in Düsseldorf featured a highly attractive scientific program.
- 2 This new research and teaching building of Salzburg University will also be available to AO Austria.
- 3 The first-ever Tips for Trainers Course organized by AOES attracted faculty from Spain, Portugal, and Latin America.
- 4 In 2007, John O'Dowd (r.) handed over presidency of AOUK to Paul Szypryt.
- 5 The traditional student courses in Davos give young professionals insight into the work of AO.



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Trustees Meeting: the birth of a new “AO Spirit”

The 2007 Trustees Meeting was held in Beijing, China, in recognition of the great achievements made by AO Asia Pacific. Combining noteworthy strategic topics with scientific presentations and cultural highlights, it was, for many, the starting point for a fresh, globalized “AO Spirit”.

Asia Pacific has shown dynamic growth and impressive organizational development as an AO Region over recent years. In recognition of these achievements, the 23rd Trustees Meeting was held in Beijing, China, from June 6 to 9, 2007. Following Chinese tradition, this meeting featured a good balance of work and social interaction, which was highly appreciated by the 140 participating Trustees.

Serious talks in an amicable atmosphere

The agenda covered a number of eminent matters, such as the course and membership management initiative, the redefined relationship with AO’s industrial partner Synthes, and the refocusing and restructuring of AO’s research activities. Though not without controversies, these topics were discussed in a highly constructive and amicable atmosphere. The scientific program, which included a range of high-level presentations and breakout sessions, focused on the progress of AO’s four Clinical Priority Programs as well as applications of biotechnology in fracture care.

A taste of China

In addition, the event aimed to give Trustees a taste of Chinese culture and insights into the local conditions for healthcare and AO activities. A perfect combination of both was the welcome speech by Chinese Trustee Manyi Wang, which was accompanied by the performance of a traditional sand artist. Outings to places of cultural interest such as the Forbidden City and the Great Wall of China provided an opportunity for networking and social exchange. The gala dinner on one of the lower levels of the Great Wall will surely remain an extraordinary memory for all participants.

Even during the event itself, Trustees critically discussed the travel expenses and other costs involved in such a meeting. Yet all agreed that it was a worthwhile investment, as the Trustees Meeting truly sparked a fresh “AO Spirit”, taking account of the new global organization and transcending geographic as well as cultural borders.

- 1 President-Elect Paul Manson engaged in lively discussions.
- 2 Past-President James Kellam addressing the Trustees.
- 3 The Trustees also had a chance to experience Chinese culture, eg, during an outing to the famous Great Wall.
- 4 Henning Madry (r.) receives the AORF Prize Award from Adrian Sugar, Chairman of AORF.

Henning Madry receives AORF Prize Award

During their Beijing meeting, Trustees also witnessed the handover of the second AORF Prize Award. Each year it recognizes the best project funded by the AO Research Fund (AORF). The 2007 award was bestowed on Henning Madry, a clinician and researcher from Homburg, Germany. Selected from over 20 entries, his excellent project looked into the use of articular chondrocytes in osteochondral defects.



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ORP: Growing, and growing together

Through a dedicated team, AO fosters the professional training of operating room personnel (ORP) around the world. This network is not only growing in size but also becoming more active and closely intertwined.

The ORP Alumni Chapter is growing steadily, and now includes nearly 75 active faculty members. To further strengthen cooperation among ORP, a mentor has been assigned in 24 of the 27 countries represented, with a mandate to support and coach local faculty. As the community becomes more widespread, the ORP site on the AO Knowledge Portal is also turning into an important platform for exchanges. A popular item is the newly established “Can You Help” section, where ORP can post questions about professional issues and receive tips from colleagues around the world.

Breaking new ground

A highlight among the 94 ORP events held in 2007 was the first-ever course in Tallinn, Estonia. Organized by local AO Alumni and run in parallel with an AO Principles Course, it attracted 24 participants. Their positive feedback once more confirmed the keen interest in professional ORP training, and illustrated the importance of cooperation between AO ORP and surgeons. ORP teaching was also expanded to South Africa and mainland China, with highly successful courses in Johannesburg and Shanghai, respectively.

A major event in Europe was the ORP forum organized by DGU/DGOOC during its annual congress in Berlin, Germany. Attracting some 300 participants, it featured a number of high-level presentations and lively discussions on topics ranging from trauma surgery to labor policy. Invited speakers included, among other guests from Switzerland and Austria, Susanne Bäuerle, Director of AO ORP.

Dedicated ORP faculty development

Systematic faculty development is a must as an increasing number of courses rely on dedicated ORP faculty, rather than surgeons. An important initiative in recent years has been encouraging faculty to make their courses more interactive, eg, through workshops, group discussions, or the “three-color system” used to stimulate ad-hoc reactions from participants. Feedback received during 2007 shows that these innovations are now successfully applied by ORP faculty.

A mainstay of faculty development is the traditional Educators’ Seminar held once more in Davos in December 2007. Bringing together 24 participants from 22 countries, it provided an excellent opportunity for fostering professional exchanges and establishing personal connections, which will certainly be maintained long after the event.

In 2007, a new concept was developed for an “AO ORP Advances Course”, to be launched in Germany in May 2008. The aim is to streamline the course offering in terms of content, timing, and learning objectives.

- 1 The traditional Educators’ Seminar in Davos convened 24 ORP from 22 countries.
- 2 The first ORP Course held in Estonia received excellent feedback from the participants.
- 3 An important highlight was the ORP Course organized in Shanghai—the first ever in mainland China.



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SEC: a year of harvesting

The SEC strives to professionalize trauma care in developing countries—a struggle often fought under adverse conditions. Although faced with some drawbacks, 2007 was a year full of small and large achievements.

Aimed at the development of self-sufficient and sustainable healthcare systems, the Socio Economic Committee's (SEC) approach focuses largely on local involvement. Over recent years, it has therefore invested heavily in the training of local surgeons and operating room personnel (ORP), both as caretakers and as faculty.

Education at a turning point

While SEC courses initially relied on faculty from South Africa, 2007 marked a turning point in this respect. Out of six courses in nonoperative fracture care held on the African continent, four were run almost entirely by local faculty. The highly motivated ORP team from Blantyre, Malawi, not only organized its own event but also supplied the faculty for the course in Lusaka, Zambia. Based on a proven combination of lectures and practical exercises in plaster application and traction, these nonoperative courses have become the foundation of SEC's educational offerings when finding a base in an African country.

Since 2002, SEC together with the ECSAOA (East, Central and Southern African Orthopaedic Association) runs an annual AO Principles Course preceding the ASEA (Association of Surgeons of East Africa) congress. In December 2007, the course was held in Mombasa, Kenya. The large majority of participants were surgeons and orthopedists in training from nongovernmental hospitals

with good surgical infrastructure. Their active participation and high standard of knowledge gives reason to believe that they will be able to apply the know-how gained. The 2008 ASEA congress and AO Principles Course will be held in Maputo, Mozambique.

Active and successful fellows

Fellowships are another mainstay of SEC's activities in Africa. Together with ECSAOA, a one-year long fellowship is offered annually to four African surgeons. To avoid the deplorable yet widespread "brain drain", fellows are required to remain at their home base for at least two years after concluding their training. So far all participants have adhered to this commitment. Moreover, many have demonstrated a high level of AO engagement while additionally enjoying personal success. In 2007, three former fellows participated as speakers in the inaugural ECSAOA congress in Pemba, Mozambique, and received best paper and presentation awards.

Local involvement vs. surgical tourism

A rather controversial issue is the SEC Reverse Fellowship Program. Financial support is given to experienced "Western" surgeons to work and teach in a target community for several weeks. A high level of local involvement is necessary for this program to reap rewards, so as not to turn into "surgical tourism".

After a review of the program in 2006, the four countries involved took rather different routes. The community in Malawi maintained its already high level of engagement, and the team in Ghana also showed growing dedication. In Eritrea and Ethiopia, however, the SEC found it impossible to encourage the local buy-in required to make the program a success. After long and thorough discussions, the decision was taken to discontinue the program in these two countries.

Linda Chokoto: first female surgeon in Malawi

Thanks to a five-year trainee sponsorship from SEC, Linda Chokoto started her surgical education in 2002. Throughout her training, she proved to be not only an excellent student but also a dedicated teacher on various SEC courses. In December 2007, Linda Chokoto passed her final exam summa cum laude. She is only the second trained orthopedic surgeon in Malawi, and the first female one.



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Highly efficient collaboration

In its endeavors the SEC also collaborates with other selected NGOs (nongovernmental organizations). One example is the partnership with Cure International, which offers training to young local surgeons in its recognized teaching units in Malawi, Kenya, and Uganda. While AO funds their education, Cure helps select suitable candidates, provides the necessary infrastructure, and oversees their training and subsequent local engagement. Since this model of cooperation has proven highly efficient, the SEC plans to expand this successful symbiosis.

Expanded global reach

Besides its engagement in Africa, the SEC is also active in Latin America. A highly successful project is the one month “short fellowship” initiated in Brazil. Since its launch in 2000, 220 enthusiastic fellows have passed through this program in Ribeirão Preto. The year 2007 saw the successful expansion of the program to São Paulo, Brazil, and Guadalajara, Mexico, which hosted 21 and 8 fellows, respectively.

The SEC has also continued its activities in Oceania and increased its engagement on the Indian subcontinent. While the latter is comparable to South America in terms of infrastructure and surgical talent available, specific regional and cultural conditions have to be taken into consideration. Before launching activities, SEC therefore invested considerable time in understanding local requirements. This diligence proved worthwhile in 2007, with a number of highly suc-

cessful events on the subcontinent. Highlights among them were a symposium on nonoperative fracture care in Nepal and the first AO Principles Course held in Pakistan. In India, two surgeons were able to partake in a short fellowship—another successful offshoot from the Brazilian program.

1 The AO Principles Course in Mombasa, Kenya, was one of the highlights of 2007.

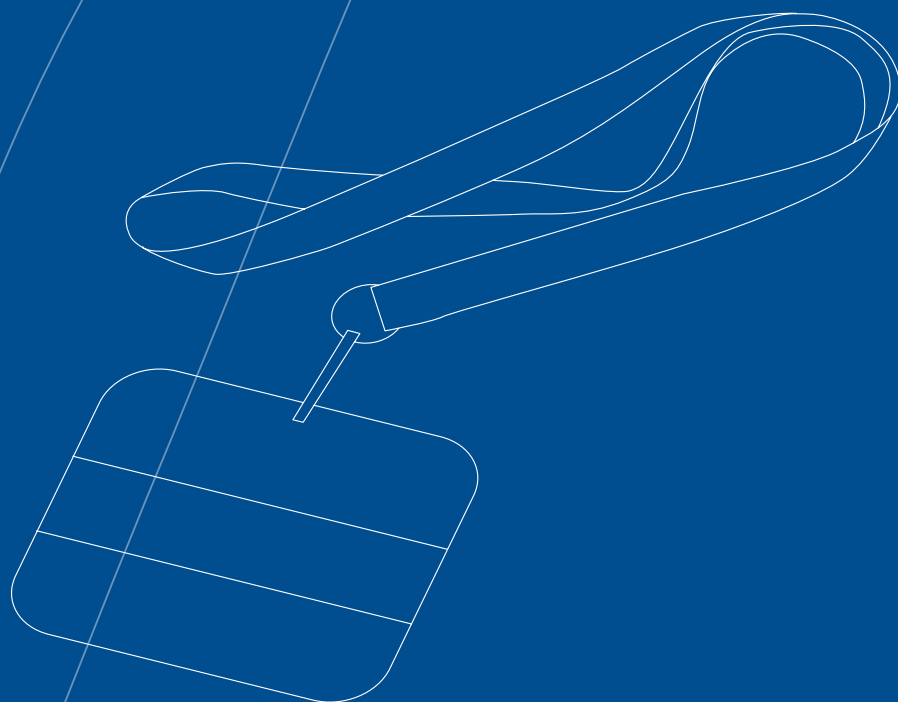
2/3 Nonoperative courses—here, in Kenya and Malawi—increasingly rely on local faculty.

4 In 2007, SEC moved into Nepal with a highly successful symposium on nonoperative fracture care.

Nepal goes nonop

In August 2007, the Nepal Medical College in Kathmandu played host to a one day trauma symposium on nonoperative fracture treatment—the first such course held in Nepal. It gave 50 young trauma surgeons and general practitioners the opportunity to learn more about principles of nonoperative care, and to discuss specific local problems in their application. The evaluation revealed a good transfer of know-how and skills to participants, who were keen to integrate their learning in daily work. After this positive experience, the event was repeated in January 2008 in Janakpur, Nepal, with equal success.

AO's **key activities** are being restructured to achieve a maximum of value for the patient.



Strengthening the value chain

In pursuit of its mission, AO engages in research, development, clinical investigation, and education related to fracture care. A strategic initiative was launched with the aim of maximizing value generation.

With over 400 AO Courses on offer every year, education is the most visible and well-known AO activity. However, these courses only mark one step in a value chain that systematically advances novel ideas and techniques for improved patient benefit.

A circle of value generation

Based on inputs from medical practice and in close cooperation with leading research partners, AO engages in exploratory research aimed at better understanding the underlying scientific mechanisms of fracture healing. The know-how generated here is then translated into concrete surgical concepts and products, which are usually developed together with an industrial partner. This applied or translational research is a main focus of AO, bridging the gap between exploratory research and the clinical application.

New surgical approaches and techniques developed by AO have to pass through a stringent approval and certification process before being introduced to the surgical com-

munity. Clinical research is conducted before and after approval to gather objective data on safety and efficacy. Finally, new applications and techniques are brought to the practicing surgeon through AO's comprehensive educational programs.

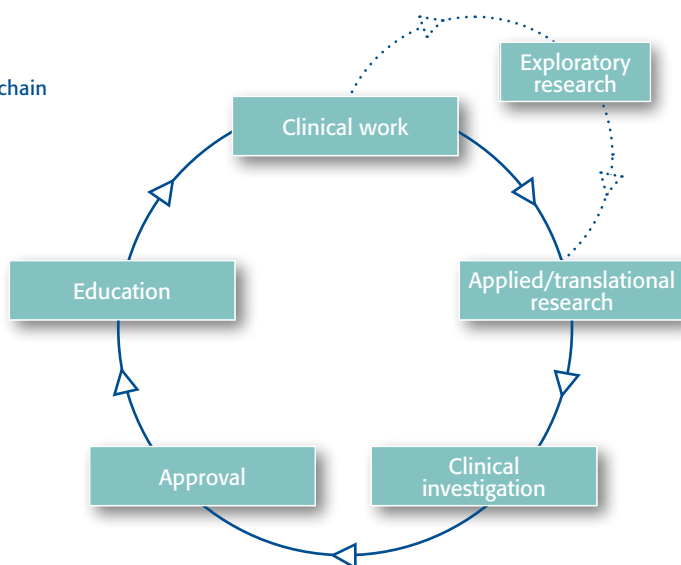
However, AO's value generation does not stop here. New surgical techniques and applications will often lead to new questions which in turn spark additional research activities. Always driven by clinical input, AO's value chain therefore resembles a circle which both starts and ends in the clinic.

Focusing research activities

All of AO's key activities are currently conducted by a number of independent, yet closely cooperating institutes. In 2007, a strategic initiative was started with the aim of concentrating research activities on those areas where AO can add maximum value. Following a detailed analysis, the Board of Directors approved new operational and governance structures in December. The organizational units currently involved in research and development will be merged into the new R&D Competence Center, and the former AO Clinical Investigation and Documentation will be transformed into a CID Competence Center. Implementation has already begun, and the new organization is expected to become operational by the end of 2008.

The following pages give an overview of AO's key activities grouped by the individual institutes as they existed in 2007. Research and development projects, as well as new product approvals and educational initiatives directly related to individual specialties are reported in the respective specialty chapter. An overview of the organizational changes planned can be found on pages 8–9.

AO value chain





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Education makes a difference

The main challenge of AOE in 2007 was anchoring the changes decided in the previous year in its organization and culture. AOE has now successfully established itself as a competence center in education—innovative quality measurement is but one example.

Due to the growing complexity and increased decentralization of educational activities, AO Education (AOE) was fundamentally restructured in 2006. A key task in its new role is to ensure and enhance the excellence of over 400 AO Courses held annually around the world.

Sophisticated quality measurement

The new pre- and postcourse needs assessment is currently being rolled out for global use. In January 2007, a second test version including a multiple-choice test assessing course participants' "real needs" as opposed to their "perceived needs" was launched. Following a thorough evaluation, the final product is now available in English and translation into five more languages is underway.

The results produced by some 700 participants during the two year pilot phase are already being put to use. For instance, the data collected pointed toward frequent overesti-

mation by participants of their own knowledge, as well as giving evidence of differing learning needs and cultures in different regions. This insight has been integrated into course planning to enhance the effectiveness of teaching.

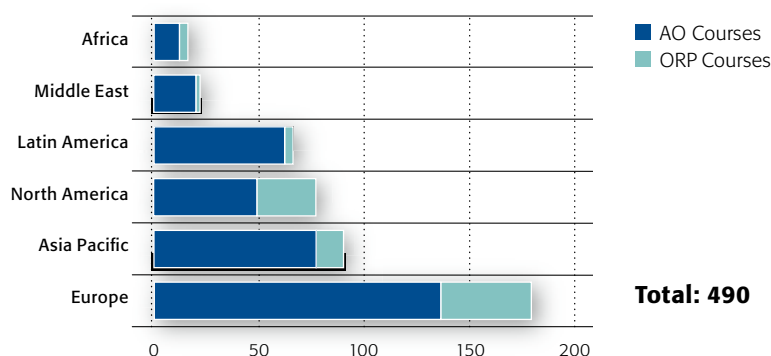
In addition, the faculty assessment system which built on a simple electronic questionnaire is currently being expanded. Experienced faculty members visit a course as observers, assess teachers according to a set of objective criteria, and provide individual feedback. The sum total of these instruments allows AOE to measure the quality of a course and demonstrate if it has made a real difference.

New offerings for faculty and fellows

Supporting and training AO Faculty is another key objective of AOE. The Tips for Trainers Course has long been established as a cornerstone in this respect. However, with a growing number of regional educators, it is no longer feasible to provide such training to every single faculty member around the world. In 2008, AOE will introduce a new, complementary format which follows a "train the trainers" approach. During these courses, selected faculty members will be educated to provide individual support and coaching to other faculty in their region.

New and more diversified fellowship opportunities are also on offer, often driven by regional or local initiatives. Examples are the "Starter Fellowship" offered by AO Asia Pacific for surgeons from countries without AO structures, or the "Visiting Professor" concept initiated by AO UK and AO North America, which enables a two to three day exchange among experts. Together with AO's industrial partner BrainLAB, AOE has further launched a "Navigation Fellowship" to provide surgeons with access to state-of-the-art CAS equipment.

AO teaching activities 2007



CME reaccreditation in North America

Continuing Medical Education (CME) accreditation is a crucial quality seal for AO Courses. During the past two years, AO North America (AONA) has undertaken major organizational changes to comply with the recently tightened US CME guidelines. After a long and thorough reevaluation process, including in-depth interviews, a 450 page self-study and an on-site course visit in Denver, AONA received a four year unconditional reaccreditation. Yet CME remains a "moving target", and AONA will continue its efforts to produce the highest quality education.



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TK-System: a year of consolidation

Now in its third year, the new structure based on the three pillars of Trauma/Orthopedics, Spine, and CMF, as well as adequate regional representation, has really come to life. It has proven to effectively support the TK-System as a “gatekeeper and pacesetter” within AO.

The TK-System includes 120 leading surgeons from all specialties, organized in 20 Expert Groups. 2007 saw the establishment of the Sternal and the CMF Neuro Surgery Working Groups, which constitute an important extension to the competencies represented within the TK-System.

Increased regional involvement

Regional members in the TK-System are generating very valuable input regarding specific regional needs, eg, where anatomical differences exist. At the same time, increasing regionalization has rendered work in the Expert Groups more demanding in terms of logistics and cultures. The TK Office has been instrumental in handling this complexity and supporting individual members in fulfilling their roles.

A good example of regional involvement is the Asian Pacific Trauma Working Group. Established in 2006, it is comprised of top-level surgeons from Japan, China, Singapore, and Australia. Together, they drove forward the development of regionally adapted products, such as the Asian version of the Tomofix Medial High Tibia Plate and the “PFN Asian Version”. Large studies have now been initiated for both devices.

Stringent approval requirements

In 2007, a total of 76 new devices and concepts were approved, among them several with a potential to significantly enhance treatment outcomes. The approval of three CAS modules for Trauma, and an additional one for Spine is particularly noteworthy. This constituted not only the first approval of software but also the first certification in cooperation with AO’s industrial partner BrainLAB.

Approval by the TK-System is subject to strict functionality and safety criteria, clearly exceeding those of the FDA and the European Union. However, quality control does not end when a product is certified. The TK-System also organizes “expert symposia” (formerly “user meetings”), providing experienced clinicians with a platform to discuss problems and complications encountered with implants. In 2007, the first such events for CMF were held, followed by the first Asian event for Trauma in Thailand.

An active dialogue

In all its activities, the TK-System closely cooperates with other AO institutes. It also recognized early on the relevance of biotechnology, and initiated an active dialogue with the Biotechnology Advisory Board (BAB) and the biotechnology division of Synthes, Inc. The aim is to collect ideas from clinicians in areas where metal alone will not produce optimal results, and evaluate the potential use of biomaterials. For this purpose, the TK-System is also planning a meeting at the Biotechnology Symposium in Lausanne, Switzerland, in October 2008.

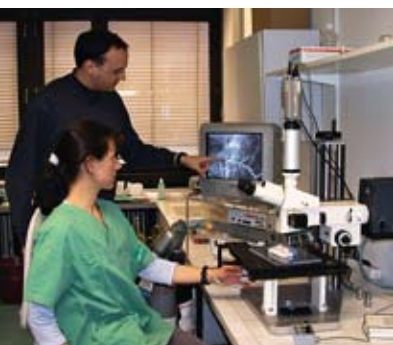
Prize winners 2007

The TK-System awards annual prizes to recognize special efforts made to advance the aims of AO. In 2007, the TK Innovation Prize was bestowed on two surgeons from Japan, Takeshi Sawaguchi and Toru Sato. It recognized their roles in the successful implementation of the regionalization strategy and the adaptation of existing implants to the Asian anatomy. The TK Certificate of Merit was awarded to Peter Messmer for his outstanding contributions to the development of the co-axial clamp, and to Beat Hammer for the development of the titanium wire with barb for canthal fixation.

- 1 The Tips for Trainers Course—here, the first held in India—has become a cornerstone of AO’s faculty development.
- 2 Takeshi Sawaguchi (l.) and Peter Messmer (r.) receive their awards from Norbert Haas (m.).
- 3 In 2007, the TK-System also approved the first four CAS modules in cooperation with BrainLAB.



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- 1 Researchers and clinicians meet at the biotechnology workshop in Malmö, Sweden.
- 2 Saarland University in Homburg, Germany, is the latest addition to AO's network of Collaborative Research Centers.

Research: a constant quest for better patient care

AO promotes and conducts research to the highest quality standards, in a constant quest for new and better treatment options. All three AO bodies involved in research saw a high level of activity in 2007.

Operating from its own laboratories in Davos, the AO Research Institute (ARI) is the backbone of preclinical research within the AO Foundation. To better meet the needs of the clinician and maximize value generation, all research and development activities of AO will be concentrated in a new R&D Competence Center in 2008 (cf p 8–9).

New perspectives in research

Although biomechanics remains an important research area, biotechnology—with a focus on tissue engineering and fracture healing—has grown into ARI's main research field in recent years. A new and exciting area is stem cell research. Taken from the bone marrow of adult patients, these cells can potentially be used to regenerate bone and disc tissue. These new possibilities are being explored in the context of the Clinical Priority Programs (CPPs) "Large Bone Defect Healing" and "Degeneration and Regeneration of the Intervertebral Disc". Stem cells are already deployed experimentally in the clinic. However, this field is still in its infancy and it may take another ten to fifteen years before patients can benefit from stem cell research.

In 2007, two ARI research projects on the use of mesenchymal stem cells were selected for funding through the Swiss National Science Foundation (SNSF). Another project on tissue engineering received a research grant from the European Union. Not only do these grants help fund the cost-intensive research work, but they also illustrate the high reputation that ARI enjoys.

Individual commitment, global exchange

The commitment and expertise of ARI's more than 70 researchers form the basis of this success. In 2007, numerous team members again received special recognition in the form of highly prestigious awards and nominations to key research positions.

Yet this kind of excellence cannot be maintained by ARI alone; it also depends on close integration with the global scientific community. Over recent years, ARI has built up an extensive network of Collaborative Research Centers, which is continually expanded. A new cooperation was begun in 2007 with Saarland University, Homburg, Germany, investigating the possible application of stem cells in enhancing vascularization.

Scientific publications are another mainstay of knowledge exchange within this community. In 2007, some 50 peer-reviewed articles by ARI researchers were published in reputable journals, covering a range of topics including implant surfaces, vertebroplasty, bone transport, and biomaterials. Demand from external parties also remained high.

Personnel news

In 2007, a number of ARI researchers received prestigious nominations. Mauro Alini was elected as the first non-US-based member to the Membership Committee of the American Orthopaedic Research Society. Stefan Milz was appointed lecturer at the Department of Anatomy at the Ludwig-Maximilian University of Munich, Germany. Finally, Geoff Richards was named Honorary Professor at Cardiff University and Aberystwyth University, Wales, the United Kingdom.

Erich Schneider, Director of the AO Research Institute (ARI), has decided to pursue his career outside AO. Over the past ten years, he successfully changed ARI's focus from biomechanics to biotechnology, and significantly contributed to the excellent reputation AO enjoys in the world of science and research.

Supporting promising researchers

Through the AO Research Fund (AORF), AO supports researchers active in areas related to AO's CPPs. In 2007, nearly 100 new applications were received and 25 accepted following a rigorous selection process. The

Successful research initiatives

Among others, the BAB sponsors two research initiatives at the University of Michigan, USA, which investigate local delivery of growth factor genes to accelerate bone replacement in different areas of the skull. One approach focuses on local adenoviral delivery of bone morphogenetic growth factor (BMP-2) genes in combination with systemic para-thyroid hormone (PTH) therapy to address complications from radioablative CMF treatment. The second study assesses therapeutic benefit from direct adenoviral delivery of platelet-derived growth factor beta (PDGF-BB) to alveolar defects. In 2007, both projects produced full publications in leading research journals.

approval rate thus increased from 15% in 2006 to 25%. Currently, the AORF supports 37 projects with a total sum of CHF 2.48 million. Biological research in such areas as bone healing, tissue engineering, and stem cells accounts for the majority of projects. A relatively new field of interest is 3-D imaging and reconstruction.

In the past twelve months, the AORF reviewing structure was further strengthened to ensure a highly professional selection process. A number of trauma surgeons with considerable experience joined the team, creating a good mix in terms of both seniority and geography. Expertise was also added in the field of basic science, and close collaboration with the Biotechnology Advisory Board (BAB) proved highly productive.

Integrating biotechnology into daily life

BAB also uses its funds to support projects by world-leading research groups in the area of biotechnology. Using stringent monitoring and technical advisory policies, all projects are demonstrating progress with high levels of productivity. Five of the six research projects currently supported are expected to mature in 2008 and lead to multiple publications and IP disclosures.

Throughout the year, BAB supported numerous AO events with specialist technical input. As part of an international network of biotechnology experts, its members also assume an "intelligence" role within AO, providing important links, contacts, and cognizance about the latest trends and developments in the field. Following the successful AO Biotechnology Symposium in 2006, the following year was devoted to smaller, more

interactive activities. Among others, two biotechnology workshops were organized in Malmö, Sweden, and Ann Arbor, USA. These brought researchers and clinicians together to discuss possible applications of biotechnology in daily clinical experience.

The results of these workshops will be reflected in the next AO Biotechnology Symposium in October 2008 in Lausanne, Switzerland, which will be attended by researchers, clinicians, and industry. This event will focus on biotechnology in bone, as well as infection and angiogenesis problems in bone repair.

Projects supported by AORF

Subject	Number of projects	% of total funds
Biomaterials/Metallurgy	1	2.4
Biomechanical fixation	1	1.4
Biomechanical joints	3	9.6
Bone healing	8	24.6
CAOS, 3-D reconstruction	2	6.0
Clinical	7	14.3
Implant development	2	7.2
Maxillofacial	3	6.7
Spine	7	21.4
Tissue reaction	2	3.9
Transplantation	1	2.4
Total	37	100

AORF grant applications

Looking for a research grant? "You don't get one if you don't apply," says AORF Chairman Adrian Sugar. Upcoming application deadlines are August 15, 2008, and February 15, 2009. For details, see www.aofoundation.org/aorf

Clinical Investigation: putting patient safety first

With its highly sophisticated clinical studies, AOCID helps establish a better understanding of the outcomes, risks, and costs of fracture treatment, thus contributing directly to AO's Mission of improving patient care.

A total of 59 studies kept AO Clinical Investigation and Documentation (AOCID) busy throughout 2007, demonstrating the continually high interest in evidence-based medicine among AO surgeons. Nine studies were completed, among them four multi-center studies which assessed outcomes of different treatment options for proximal humerus fractures (PHILOS, LPHP, PHN, and conservative). Economic aspects were high on the agenda, especially for third-party studies such as the retrospective cohort cost-effectiveness study conducted in Chile.

Demand also kept up for research-related services provided by AOCID, including the recently launched medical writing service. Due to high levels of interest, a second editor was employed to provide professional writing and editing services.

Excellence in clinical research

In accordance with AO strategy, a growing proportion of AOCID's work involves complex study designs such as prospective cohort studies and randomized controlled trials. As opposed to simple case series, these can better answer specific questions about the efficacy and safety of fracture treatment, allowing a direct and valid comparison of treatment options. The fact that two current studies meet the stringent requirements of the US Food and Drug Administration (FDA) testifies to AOCID's high quality standards.

To ensure this excellence, AOCID runs a state-of-the-art quality management system based on the ISO 9001:2000 norm. In 2007, the regular three-yearly recertification process was passed after only a few improvements. The auditors especially noted the institute's professional competence in managing clinical studies and the high quality of documents.



1

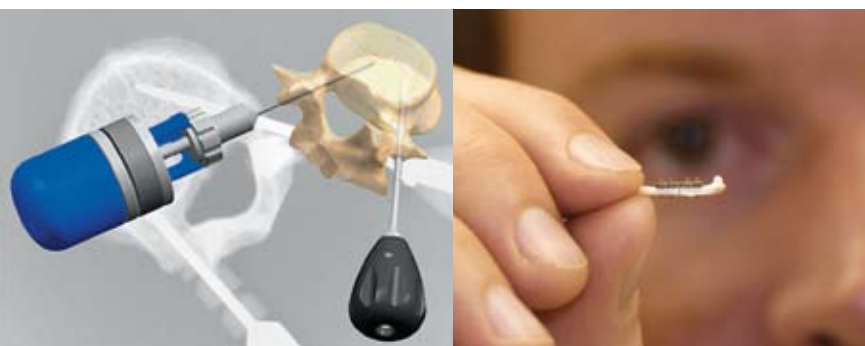
AOCID also fosters young surgeons interested in clinical research with a special fellowship launched in 2005. Fellows spend a three-month period working with AOCID at the Dübendorf office. During this time they engage in study planning and monitoring as well as data analysis and medical writing. The six fellows who underwent the program so far are all enthusiastic about their experience, and the program is fully booked until 2009.

A growing global network

As a leading clinical research organization, AOCID relies on a comprehensive global network of study centers. This network has grown further in 2007 and currently numbers 163 reference clinics distributed throughout 23 countries. While most are still located in Europe, Asia and North America are showing dynamic growth.

In the USA, this development is being driven by AOCID North America (AOCID NA). Since its foundation in 2003 as a small satellite office, this organization has grown dramatically in both size and capabilities. It currently manages two retrospective and three prospective studies, with five more studies in the planning phase. In April 2007, AOCID NA organized a "Study Coordinators' Meeting" to strengthen its relationship with the existing reference clinics and to further expand its network in the USA.

1 Beate Hanson, Director of AOCID, presents the latest clinical research findings at the 2007 Trustees Meeting.



1

2

Development: clear focus, clinical relevance

For the past few years, the work of ADI has been guided by one major priority: the treatment of osteoporotic bone. This steady focus is now starting to bear fruit.

In 2007, the AO Development Institute (ADI) continued to focus its activities on the issue of osteoporosis. Further progress was made regarding the standardized augmentation technique as well as the DensiProbe™ Hip, and the know-how generated on these projects was successfully transferred to education with the launch of the Geriatric Fracture Course. In the wake of a strategic initiative to better meet the needs of clinicians, all research and development activities of AO will be concentrated in a new R&D Competence Center in 2008 (cf p 8–9).

DensiProbe™: from hip to spine

ADI's focus on concept development in recent years is now taking full effect. This entails clearly defining a clinical problem,

developing a viable solution, and finally transferring it to other anatomical regions or clinical issues.

A good example is the DensiProbe™ concept, a device for intraoperative measurement of local bone strength. This tool was originally developed by ADI in the context of the Clinical Priority Program (CPP) "Fracture Fixation in Osteoporotic Bone". Its first clinical application, DensiProbe™ Hip, was presented during the Geriatric Fracture Course in December 2007. It received encouraging feedback from practicing surgeons worldwide who deemed it highly relevant for their daily work. Moreover, the new device has awakened interest among spine surgeons. Drawing on the experience at hand, ADI developed a second application, DensiProbe™ Spine, within a mere six months.

The development of DensiProbe™ Spine was also facilitated by mentoring surgeons. A team of five leading spine surgeons was enlisted to the project as mentors. They helped integrate clinical expertise from the specialty and actively supported and promoted the project. Since this worked so well, ADI will include more mentors from the relevant specialties in all its future projects.

Facilitating research on a global scale

ADI is not only encouraging cooperation within AO but also making its know-how available to a growing research community. One example is the MouseFix™ System, a set of implants and instruments for mouse models developed within the scope of the CPP "Large Bone Defect Healing". This system has generated a high level of interest both within and outside AO.

Basic fracture research with rodents often suffers from excessive costs due to repetitive, customized developments and production, for example of miniaturized plates and screws. To support these processes, ADI developed a full portfolio of research devices and systems for rodents under the name AO RIS (AO research implant system). This standardized material is now available to researchers around the world and has proven to substantially facilitate and accelerate research.

- 1 Building on an established concept, the DensiProbe™ Spine was developed in only half a year.
- 2 The AO research implant system is made available globally to facilitate fracture research in rodents.

Personnel news

Norbert Suhm stepped down as director of ADI in 2007 to further pursue his clinical career at Basel University Hospital. During the past four years, Norbert Suhm initiated a major change process transforming ADI into a focused organization and establishing clear priorities which are now deeply rooted in the institute's culture. The position of director has been filled ad interim by ADI member Thomas Kaup.

Integrity and strict **governance**
are paramount for AO as a medically
guided nonprofit organization.



Dedicated to the AO Mission

As a nonprofit organization under Swiss law, the AO Foundation sets great store in upholding the highest level of integrity and transparency.

AO has propagated the same universal principles of fracture care over the past 50 years—atraumatic soft-tissue handling, reduction and fixation techniques, and early active motion. While AO has also been instrumental in the development of high-quality osteosynthesis equipment, the AO Principles continue to form the heart and soul of the organization.

The majority of AO's funds are spent on disseminating the AO Principles through a variety of educational activities, as well as promoting research and development aimed at achieving more effective fracture care.

Transparent and effective cooperations

To translate the latest research findings into surgical applications, AO has established good working relationships with other non-commercial and industry partners. Reconfirmed in 2006, the cooperation with Synthes, Inc. is the supporting pillar of this network. In 2007, a new educational partnership was formed with Siemens Medical Solutions, and

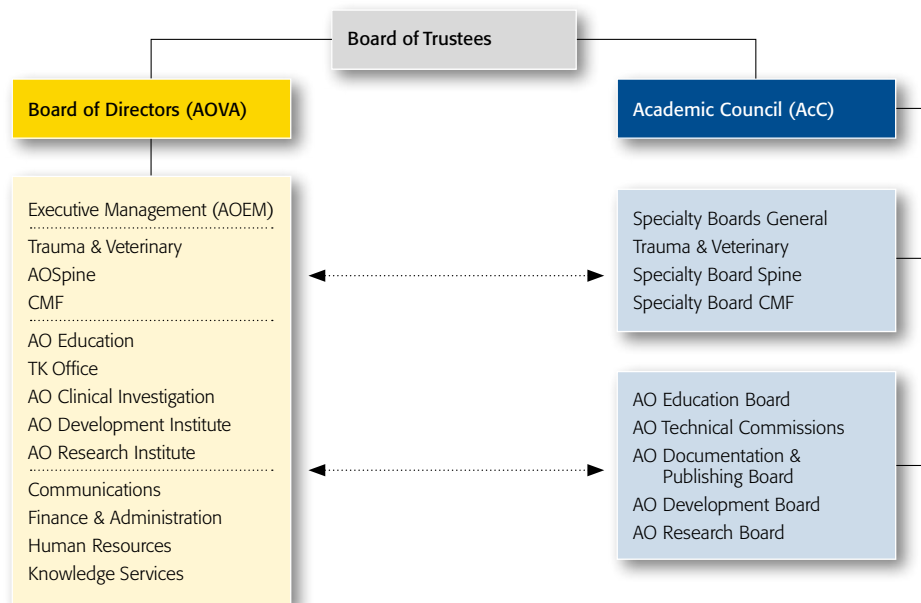
AO is currently looking to expand its industrial network with the aim of covering the entire surgical management process. While these cooperative partnerships substantially contribute to delivering value to the practicing surgeon, it is of the utmost importance for AO to remain free of undue influence.

Uncompromised medical guidance

A major element in upholding AO's integrity is the concept of medical guidance. Under the ultimate leadership of the Board of Trustees, the Academic Council provides scientific guidance while the Board of Directors maintains organizational governance. Every AO body includes a majority of practicing surgeons to ensure the clinical relevance of all its activities.

The structure and organization of AO have inevitably been adapted throughout the years to keep abreast of new challenges—and this will continue in the future. The successful dualism of scientific guidance and organizational governance will remain a guarantor of AO's integrity and dedication to its mission.

The following chapter gives an overview of AO's financial development in 2007—expanded to provide more financial transparency—as well as a detailed description of its governing bodies.



Organizational structure
as per January 1, 2008

Finance: managing funds in line with strategy

In 2007, the new funding structure of AO, based on cooperation and financial income rather than royalties, became fully visible. Spending increased to a total of CHF 95 million, a large part of which is allocated to research, education, and publishing activities to directly support the AO Mission.

In 2006, AO signed an Asset Purchase Agreement with Synthes, Inc. which transferred a large number of patents and trademarks to Synthes. In 2007, an Investment Committee, which includes external experts, was installed to manage the acquired funds professionally. By the end of 2007, total equity amounted to CHF 1.08 billion.

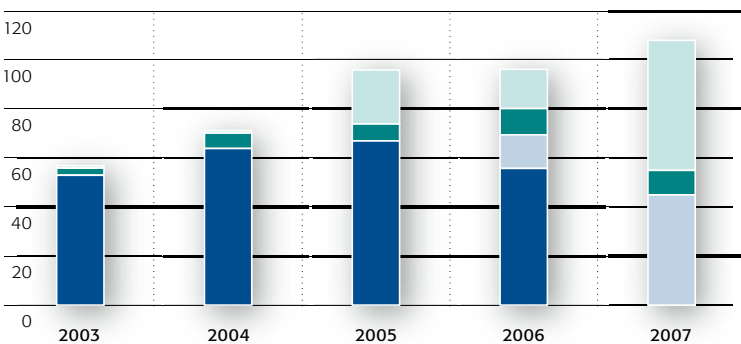
New structure of revenues

The effects of this shift in assets became fully visible in AO's revenue streams in 2007. Formerly the mainstay of AO's inflows, royalty income was completely replaced by revenues from cooperation agreements as well as fi-

ancial income from the AO Foundation's participations and asset management. Total income increased by 12 % compared to the previous year, with similar contributions from operating and financial income. The latter included an extraordinary dividend payment from AO Technology AG of CHF 40 million.

Not included here are the additional revenues generated through commercial activities, eg, contract research conducted for industrial customers. To channel these activities and clearly separate them from AO's non-profit engagement, a legal entity offering

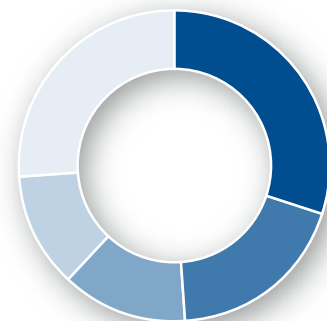
Income structure
(in CHF million)



Financial Income*
Other 3rd Party Income
Cooperation Agreements
Royalties

*excl. proceeds from Asset Purchase Agreement with Synthes, Inc. (2006)

Operating expenses by category 2007



Personnel Expenses 30%
Expenses Non-Employees* 19%
Scientific Expenses 13%
Regional Expenses 12%
Others 26%

* incl. mainly Travel/Accommodation

clinical and preclinical contract research was established in 2007. Profits from this organization are re-channelled into noncommercial activities aiming at the improvement of fracture care.

Increased spending for global activities

Net operating expenses grew by 10 % compared to the previous year, staying well below the 14 % average annual growth rate of the last five years. In accordance with the AO Mission, a large part of the total CHF 95 million spent was allocated to research activities as well as to education and publishing. Due to its strong growth and organizational development, AOSpine accounted for almost one-fifth of total funds spent. Other major expense blocks included the AO Regions and activities of the AO Management and Trustees.

The increase in spending is required to finance a continually growing level of global activities by the AO Foundation. In line with AO's strategy of increased regionalization and specialization, major growth drivers

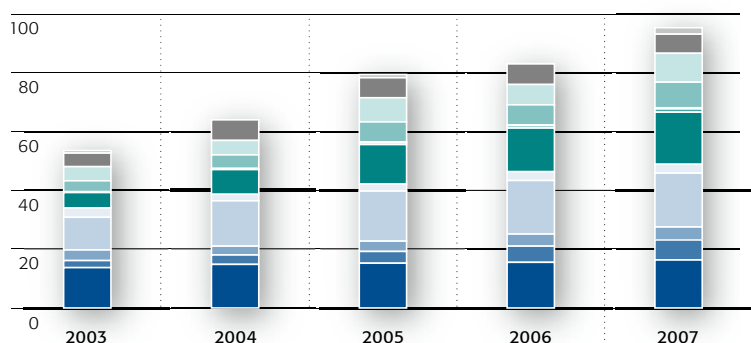
over the past five years were the AO Regions, AOSpine, and AO CMF, which only started its own activities in 2004. Clinical research also contributed significantly to this growth, illustrating the increasing interest in evidence-based medicine by AO surgeons.

In terms of spending categories, three-quarters of total spending went on four major areas. Personnel expenses accounted for 30 % of total spending in 2007. A large part was also allocated to expenses necessary for other surgeons active in the network on five continents, mostly travel and accommodation costs. Other major cost categories included scientific and regional expenses.

A growing team of dedicated specialists

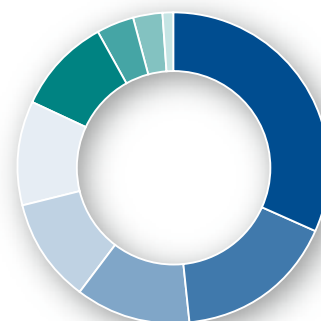
As a consequence of this increased activity level, the total number of employees has risen steadily in recent years, reaching 245 by the end of 2007. Approximately half of all AO employees are specialists active in research, education, and publishing.

Operating expenses by institute/specialty
(in CHF million)



AO Research (incl. CRCs and CPPs)	16.3	17%
Clinical Research	6.8	7%
Development	4.4	5%
Education & Publishing	18.3	19%
Technical Commission	3.0	3%
AOSpine	17.7	19%
AO CMF	1.1	1%
AO VET	0.4	0%
Regions	8.7	9%
AO Management & Trustees	9.8	10%
AO Central Infrastructure	6.5	7%
Unforeseen	2.2	2%
Total in CHF million	95.2	100%

Employees by institute/specialty 2007
(full-time equivalents)



AO Research	32%
Education & Publishing	17%
AO Central Infrastructure	12%
Development	11%
AO Management & Trustees	10%
Clinical Research	10%
AOSpine	4%
Technical Commission	3%
Regions	1%

Governing bodies of the AO Foundation

(as per January 1, 2008)



1



2

Board of Trustees (1)

The Board of Trustees is the “AO parliament”, consisting of 165 leading surgeons from around the world, including ex-officio Trustees. The Trustees approve amendments to the charter and elect the members of the Academic Council (AcC). They function as ambassadors for AO in their country or region and communicate the AO philosophy. They transmit AO information to national institutions and other AO surgeons and bring feedback regarding special needs into AO. Since each Trustee serves for a limited number of years, constant rejuvenation of the Board is guaranteed.

Board of Directors—AOVA (2)

The Board of Directors implements the goals and proposals of the Academic Council. Its 12 members include three (nonvoting) representatives of Synthes, Inc.

Back row, from left to right:

- Eric Johnson
- Ciro Römer, Synthes, Inc.*
- Roland Brönnimann, Synthes, Inc.*

Middle row, from left to right:

- Suthorn Bavonratanavech
- Tim Pohlemann
- Pierre Hoffmeyer
- Michael Janssen

Front row, from left to right:

- Christian van der Werken, President
- Markus Rauh, Chairman**
- Paul Manson, President-Elect
- James Gerry, Synthes, Inc.*
- Jaime Quintero

Permanent guests, not in picture:

- James Kellam (Past-President)
- Lukas Kreienbühl (CFO)
- Gregor Strasser (CEO)
- Urs Weber (Minutes)

* nonvoting member

** casting vote



3

Academic Council—AcC (3)

The Academic Council lays down the AO Foundation's medical and scientific goals. Elected by the Board of Trustees, it has 19 members and is supported by four Specialty Academic Councils (SACs), specialized steering boards, and other ex-officio members.

Back row, from left to right:

- Tobias Hüttl*
- James Kellam
- Jörg Auer
- Michael Ehrenfeld
- Norbert Südkamp*

Middle row, from left to right:

- Pietro Regazzoni*
- David W Grainger*
- Markus Rauh (permanent guest)
- Peter Matter (Founding Member)
- Paul Pavlov*

Front row, from left to right:

- David Helfet
- Norbert Haas
- Christian van der Werken
- Paul Manson
- Nikolaus Renner
- Thomas Rüedi (Founding Member)

Not in the picture:

- Jesse Jupiter
- Maurice E Müller (Founding Member)
- Stephan Perren (Founding Member)
- Hansjörg Wyss (Founding Member)

* nonvoting member



4

AO Executive Management—AOEM (4)

The AO Executive Management implements the decisions taken by the AOVA, and supervises the activities of the operational functions of the AO Foundation. It consists of the CEO and ten line managers who are responsible for operational management within their respective areas.

Back row, from left to right:

- Thomas Kaup, Director ADI a.i.
- Piet de Boer, Director AOE
- Christoph Nötzli, Head of TK Office
- Herwig Dämon, Head of Communications & Events
- Michael Piccirillo, Director AOSpine
- Tobias Hüttl, General Manager AcC

Front row, from left to right:

- Erich Schneider, Director ARI
- Beate Hanson, Director AOCID
- Gregor Strasser, CEO
- Irène Zuberbühler, Head of HR
- Lukas Kreienbühl, CFO

Organizational terms

AcC	Academic Council
ADI	AO Development Institute
AO	Stands for the German "Arbeitsgemeinschaft für Osteosynthesefragen," ie literally "Association for Osteosynthesis"
AOA	AO Austria (section)
AOAA	AO Alumni Association
AOAP	AO Asia Pacific (region)
AOCH	AO Switzerland (section)
AOCID	AO Clinical Investigation and Documentation
AOE	AO Education
AOEM	AO Executive Management
AOES	AO Spain (section)
AOLAT	AO Latin America (region)
AOME	AO Middle East
AONA	AO North America (region)
AORF	AO Research Fund
AOSI	AOSpine International
AOSRN	AOSpine Research Network
AOUK	AO United Kingdom (section)
AOVA	Board of Directors (from the German "Verwaltungsausschuss")
ARI	AO Research Institute
BAB	AO Biotechnology Advisory Board
CPP	Clinical Priority Program
CRC	Collaborative Research Center
DAO	AO Germany (section)
SACc	Specialty Academic Council
SEC	Socio Economic Committee

Technical terms

3-D	Three-dimensional
AO RIS	AO research implant system
CAS	Computer-assisted surgery
CAT	Computer-assisted testing
CME	Continuing Medical Education
CMF	Craniomaxillofacial
CRIF	Clamp/rod internal fixation
CSM	Cervical spondylotic myelopathy
CT	Computed tomography
FDA	Food and Drug Administration (USA)
GOF	Geriatric odontoid fracture
LCP	Locking compression plate
LCPDR	Locking compression plate distal radius
LFN	Lateral femoral nail
LPHP	Locking proximal humerus plate
MR	Magnetic resonance
ORP	Operating room personnel
PHILOS	Proximal humerus internal locking system
PHN	Proximal humerus nail
PFN	Proximal femoral nail
TAN	Titanium aluminum niobium
TPLO	Tibial plateau leveling osteotomy

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