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Staff and organizational requirements for pain services in hospitals

A recommendation from the German Society for Anaesthesiology and Intensive Care Medicine

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Summary

Although pain services have been established in many hospitals, there is considerable heterogeneity among them with respect to organization of service, staff and qualifications of staff, and treatment approaches.

With this recommendation, the German Society for Anaesthesiology and Intensive Care Medicine defines requirements for pain services in hospitals with respect to organizational standards and staff qualifications. The treatment offered by pain services supplements the care provided by other departments, ensuring a high quality of specialized pain management in all areas of the hospital.

Pain services shall oversee treatment with special analgesic techniques as well providing consultative and liaison services, bringing together in-hospital pain medicine expertise in one service, available 24 hours a day, 7 days a week via a single point of contact. The medical head of the pain service shall be a qualified provider of pain medicine as defined by the German Medical Association and should preferably also have undergone additional training in basic psychosomatic medicine. Further members of medical staff shall match consultant-level standards whilst non-medical staff shall have completed continuing education in the management of pain. Guidelines for minimal staff resources were defined; these include a specific time frame for first contacts (20 min) and follow-up (10 min) when providing care for special analgesic techniques, and when providing guidance and liaison services (first contact 45 min, follow-up 20 min), with additional time for transit, preparation, training and quality assurance. In addition to defining requisite spatial resources and equipment, the overriding importance of ensuring the provision of specialized care is emphasized, as is the requirement for the provision of a sufficient and predictable distinct budget for the pain service. Written agreements between the disciplines and transparent documentation, including patient-reported outcomes, are recommended to ensure a high quality of care.

Preface

Patients have a right to treatment of pain. The benchmark is care discharged at a consultant-level standard and adherence to current medical knowledge [1]. Pain is not only unpleasant und leads to individual suffering, but also increases the risk of complications and so significantly influences the outcome and quality of rendered care [2–4]. Acute severe pain is also associated with an increased risk of pain chronification [5]. Depending on speciality, between 60 and 90% of patients suffer pain related to their ailment and care in hospital [6-9]. Moreover, depending on speciality, between 30 and 80% of inpatients suffer from pre-existing chronic pain at the time of admission [6,7,10]. These patients typically experience increased pain and stress intensity in relation to surgical treatment and acute

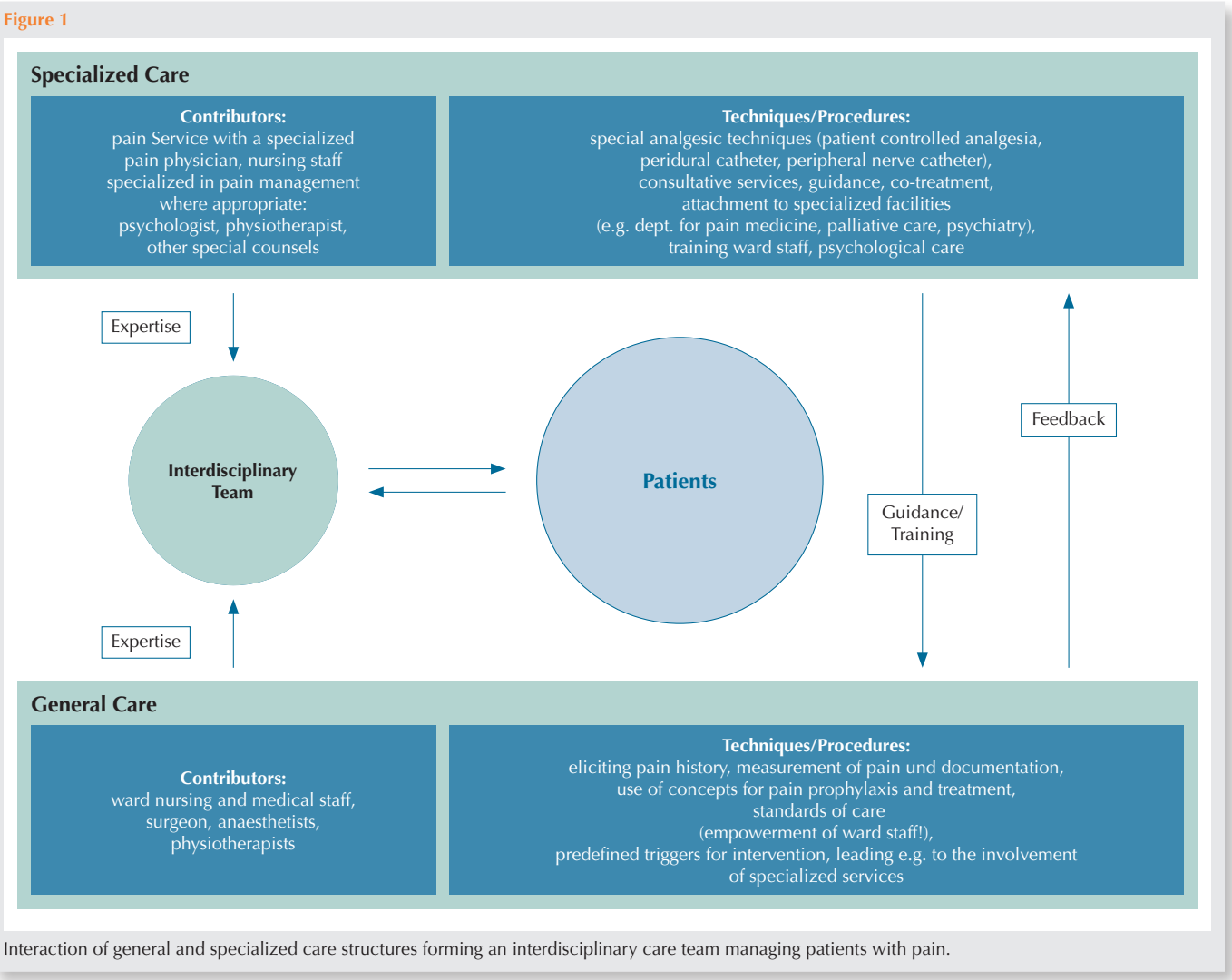
illness, leading to poor function (e.g. mobilisation, sleep quality), delayed discharge from hospital and increased costs [2,3,11]. Therefore, treatment of pain and with that the reduction of suffering is not only a self-evident ethical requirement and fulfilment of laws governing professional conduct but is in itself an economic quality to be considered part of a responsible stewardship of resources available to the health care system [1,12]. From an economic point of view, preventing adverse outcomes due to poor function, or preventing chronic pain from developing is of particular importance [13–15]. As such, professional treatment of patients suffering pain is a significant component of high-quality medical care.

Conceptional framework for inpatient care

For patients in hospital to be well looked after with regard to pain requires accountability at the levels of management, specialist disciplines, professions and workspaces, as well as close cooperation between all involved parties. Treatment of pain by staff responsible for the patient's general care comprises all the prerequisites for the provision of basic pain management (= **general care**) (Figure 1). In addition, certain acute illnesses or surgical procedures and patients with pre-existing pain and corresponding pre-treatment will require more sophisticated concepts for diagnosis and management. These should be provided in an interprofessional and interdisciplinary manner by a specialist team (= **specialized care**). This cross-departmental approach ensures that patients' rights to adequate treatment of pain are observed in the spirit of departmental and management accountability.

General and specialized care should not be independent of one another, but should instead be regarded as joint team care, acting as one team in managing patients. Close cooperation within the team and interactions between the team and the patient make effective levels of communication essential for high quality, effective care.

Figure 1



Interaction of general and specialized care structures forming an interdisciplinary care team managing patients with pain.

Terminology

Today, hospital services providing inpatient pain management are diverse [16,17]. With its roots found in the ambition to provide better perioperative care, the acute pain service (APS) is the most established and currently most common provision. Approximately 80% of German hospitals declare that they operate an APS, although that number does not take specific criteria or definitions, or suitable staffing levels into consideration [16,17]. Research has shown that both nationally and internationally the term "acute pain service" incorporates significantly differing professional and organizational structures [16–18]. With regard to the minimal criteria for an APS as described in 2002 (staff for rounds, availability out-of-hours, written agreements, regular determination and documentation of pain scores) fewer than half of all APS fulfil the standard [17]. This is especially critical in the majority which show inadequate staff provisions. Only 24% of hospitals with an APS include medical staff for the service in their roster, with 50% of hospitals providing nursing staff [19].

In most hospitals, APS are geared towards providing post-operative care for patients treated with invasive analgesic techniques (such as regional anaesthetic catheters, patient controlled analgesia), although others do provide for patients with complex pain or complicated pain evolvement (e.g. those with pre-existing pain, opioid medication, addiction, persistent post-operative pain, tumour pain) or offer special techniques (e.g. image-guided nerve blocks, sophisticated diagnostic and therapeutic concepts based on the biopsychosocial model of pain). Approximately 40% of German hospitals expand on the APS with complimentary services, such as (pain management) consultations aimed at co-treatment of patients with chronic pain, complicated post-operative courses or for those with pain management issues of non-surgical origin. In almost 40% of German hospitals the APS, which is usually geared towards perioperative care of patients treated with invasive techniques, is the only specialized pain service [16]. It is apparent, therefore, that quite apart from competency in the management of perioperative pain, expertise in diagnosing and treatment of chronic and tumour associated pain should be available, enabling provision of high-quality care for the whole spectrum of inpatients [20].

Remit of specialized care

In practice, therefore, specialized inner clinical pain services have the following areas of responsibility:

1) Care for invasive analgesic techniques (e.g. catheter-based techniques and patient controlled analgesia)
2) Offer consultative services, evaluating pain and providing guidance to the physician responsible for the patient's general care, assisting e.g. in diagnostic questions or preparing sophisticated treatment concepts
3) Provide co-treatment for inpatients with pain as part of a liaison service when requested by the physician responsible for the patient's general care, offering assistance with the realization, co-treatment or implementation of treatment concepts for select patients with special treatment requirements

Definition of pain services

To ensure that patients with particular requirements or presenting special challenges are offered appropriate specialized pain care, these remits shall be provided for by a pain service[1] (PS) available throughout the hospital. In-hours, this PS shall be suitably staffed and equipped with the necessary expertise to diagnose and treat acute, chronic and tumour associated pain, as well as situations involving multiple pain entities (such as acute on chronic). Because pain often involves multiple entities (approx. 50% of surgical APS patients), pain services should be provided by a single service offering expertise across the whole range of aspects of pain care, thus avoiding additional complex collaboration between multiple providers [10,20].

Aims and validity

It is the opinion of the German Society for Anaesthesiology and Intensive Care Medicine (DGAI) that these recommendations, as an expert consensus, describe fundamental requirements which, based on recommendations in literature and expert opinion, detail organizational and staffing prerequisites for high quality specialized care provided by PS in hospitals. The remit comprises eliciting a pain diagnosis, initiation, implementation and monitoring of specialized pain management or symptom control, providing pain care for patients with acute serious pain following surgery, accidents, or serious, exacerbated tumour and non-tumour associated chronic pain, other conditions causing pain, as well as tending to continuous regional anaesthesia techniques and patient controlled analgesia systems. In addition, the recommendations cover the provision of guidance and co-treatment of inpatients affiliated with any department as part of a consultative and liaison service.

These recommendations are aimed at all general and specialized hospitals participating in curative care. This document contains interdisciplinary and interprofessional recommendations which, amongst other things, complement earlier recommendations by the DGAI and the Professional Association of German Anaesthesiologists (BDA) regarding the infrastructure of the anaesthesiologic workplace, and the interdisciplinary agreement between anaesthesiologists and surgeons regarding pain management [21, 22]. The recommendations are graded following the principles used in the development of medical guidelines:

- "shall" (highest grade of recommendation and/or legal norm)
- "should" (medium grade of recommendation)
- "can" (low grade of recommendation)

1 Due to the heterogeneity of terms and the requirement to demonstrate, using an appropriate term, the broad range of specialized inner clinical analgesic procedures and pain care provided, extending well outside the constraints of postoperative pain management, it is recommended that the term "pain service" (PS) be used.

Structural and organizational requirements

Management shall, within the terms of their accountability, make adequate resources available for a PS, enabling provision of specialized care for inpatients with pain [12,19,23–25].

Provisions must be made to ensure personnel responsibility and capacity, as well as a minimum standard in regard to the qualification of out-of-hours service.

So as to provide continuous care, routine provisions during working hours should be made by a predefined fixed team. Frequent (e.g. daily) rotation of those providing direct patient care should be avoided when possible. Junior doctors should be integrated into the service based on a fixed rota to allow for training in pain management. A qualified consultant shall be named to lead the service and take medical and organizational responsibility for it (see personnel requirements).

Written agreements shall exist between the primary departments and the PS or the responsible speciality department [24,26]. Besides documenting the respective responsibilities in the departments, these should define who is to take on which responsibilities in regard to pain management. Written agreements shall document who will make medical orders in respective divisions, avoiding the risk of parallel medical orders being made. These written agreements should also contain rules on the delegation of tasks otherwise reserved for physicians, and on the necessary authority of pain service physicians to give directives to nursing staff within the pain service and on the wards of other departments [26]. To avoid complicating practical matters, when providing care associated with invasive analgesic techniques or as part of a liaison service, the co-treating PS physician should be permitted to make doctor's orders pertaining to pain management [26]. By definition, this is not a requirement when the PS is providing guidance only.

2 As the qualification "special pain management" is not yet comprehensively available, attempts should be made to fulfil this specific recommendation within 5 years. Competency in care for invasive analgesic techniques is ensured within the framework of anaesthesiologic consultant competence.

Staff requirements

The specialized management of inpatients with pain not only requires care to be discharged at a consultant-level standard, but also calls for special knowledge, skills and experience in this area of medicine [1,12,26]. Invasive analgesic techniques are associated with significant risks for patients. The collective body of patients is complex, especially when pre-existing chronic pain and psychological comorbidities are present [10,20]. Staff shall have proficiency in history-taking and examination techniques and a mastery of clinical pictures and differential diagnoses, understanding findings within an interdisciplinary context.

Medical staff

Routine care: care rendered by physicians within a pain service must conform to consultant-level standards. The lead physician in a pain service shall be a consultant with the additional qualification "special pain management" who should have partaken in a 50-hour "basic psychosomatic care" course[2] as defined respectively by the German Medical Association.

Out-of-hours service: Consultant-level standards shall be attained out of hours.

Non-medical staff

Routine care: non-medical members of a PS shall have absolved specific further training (e.g. pain care assistant or pain nurse).

Out-of-hours service: if non-medical staff perform tasks as part of a PS without the responsible physician being in direct attendance, the person should be a qualified "special nurse for anaesthesiology and intensive care medicine" as defined by the German Hospital Federation and state law.

Communication and availability

The number of people involved, and the number of interfaces between those involved in the management of patients with pain make communication within the PS and between the PS and involved partners especially important. Clear rules should govern the handover between members of the PS during routine and out-of-hours service.

The PS should maintain close communication with involved partners and ward staff. The PS shall be available preferably via a single point of contact, available 24 hours a day (e.g. telephone number, pager etc.). This contact should be available not only to ward staff but instead be transparent and available to other involved professionals (e.g. physiotherapists).

Documentation and quality assurance

The interface-rich working environment which is the management of inpatients with pain requires documentation to be thorough and transparent and immediately available to those involved in the patient's care. In accordance with the definition of OPS key 8-919 "complex acute pain therapy", the documentation should reveal at least 3 aspects of the effectivity of the treatment at least once per day [27]. The following aspects should be taken into consideration:

- Determination and documentation of pain intensity (at rest, moving, on exertion) for every contact between the PS and the patient
- Determination of pain acceptance
- Determination of functional aspects and side-effects (adapted to the respective disease or intervention)
- Degree of mobilization
- Degree of sedation
- Side-effects and complications as appropriate for the analgesic technique

Documentation of care for invasive analgesic techniques: documentation produced by the PS during the care for

invasive analgesic techniques shall be directly available or made immediately available to those medical colleagues and their ward staff providing general inpatient care to the patient.

Documentation of guidance and liaison services: the documentation of guidance and liaison services rendered should be standardized and shall be transparent and accessible to all those involved in the care of the patient. The handover between physicians and communication of the assessment and recommendations expressed as the result of a request for guidance or following the initial patient contact as part of the liaison service should be carried out as a face-to-face encounter between the physicians. When co-treatment is offered as part of the liaison service, treatment progress should be regularly discussed in an exchange between the physician providing the patient's general care and the physician providing pain care.

To provide quality assurance in pain management, patient-reported result-oriented quality criteria should be regularly documented. Besides providing inpatient care, the organization and realization of regular training for members of the pain service is a central responsibility of the PS, ensuring that high quality care is offered.

Continuing education and specialization

Staff providing specialized pain care as part of an in- or out-of-hours PS should participate in a minimum of 3 hours per annum of documented continuing medical education pertaining to pain management.

A minimum two-month rotation with the PS encompassing daily patient contact should form part of continuing education and specialization. For staff who will be responsible for providing out-of-hours PS this rotation shall take place prior to their first such shift. The rotation should include sufficient supervisional job familiarization by the lead physician of the PS. Familiarization with hospital-specific circumstances and workflows shall occur in-hours. An introductory and a concluding meeting with the lead physician in person can be held and documented. As part of specialist training with the PS, based on existing curricula, the following skills and knowledge should be conveyed [28,29]:

Medical and legal fundamentals

- Pain physiology (nociception, conduction and processing)
- Psychological influence on the experience of pain
- Knowledge of risk factors for severe pain with its consequences, and knowledge of mechanisms of chronification
- Biopsychosocial understanding of pain and knowledge of major clinical pictures in pain medicine, differential diagnoses and psychologic comorbidities
- Legal fundamentals

Examination

- Eliciting pain from patients, including special patient categories (children and youths, intubated patients, patients with cognitive deficits)
- Ability to take a pain history
- Ability to examine the locomotor system including a basic neurological exam

Treatment

- Mechanism-oriented therapy with analgesics, co-analgesics and adjuvants as well as local anaesthetics, invasive techniques including anatomic fundamentals, knowledge of non-pharmacologic interventions
- Knowledge and skills in the provision of pain therapy for children and youths, the elderly, pregnant and breastfeeding women, those with chronic pain, patients with pre-existing opioid medication, for patients suffering current or previous addiction and those in substitution therapy
- Simple psychologic interventions
- Knowledge and skills in prevention, evaluation of differentials, and treatment of complications arising during pain management
- Knowledge of misuse of analgesics and its prevention

Technology and organization

- Knowledge of technical aspects (pain pumps/pump systems and patch systems)
- Organizational skills

Pain service staff resources

Pain service staff resources should be calculated and provided in such a way that working time directives and the requirements of liability law and contracts are satisfied, as well as ensuring that the aforementioned responsibilities in the areas of care for invasive analgesic techniques, provision of guidance and liaison services, documentation and quality assurance including specialist and continuing medical education can be fulfilled.

Structures and structural conditions vary significantly between hospitals and contingent on location and size (e.g. central clinics, pavilion systems, multiple sites, differing numbers of beds). Longer distances between units can increase transit times significantly and need to be taken into account when planning staff resources. Notwithstanding these variations, the following details provide a basis for calculating the staff resources necessary to provide care with a pain service.

Care for invasive and patient controlled analgesic techniques: staff resources should ensure that in the course of care for invasive analgesic techniques patients are seen a minimum of twice daily; at least one of these contacts shall be made by a physician. The definition of OPS key 8-919 ("complex acute pain therapy") and the scope (e.g. on a normal ward) of usual direct physician-patient contacts (e.g. during ward rounds) provide a benchmark for factoring physician-patient contacts and supervision by the PS physician [27].

At least 20 minutes shall be allocated for the first patient contact, including time for dialogue and providing patient instructions, reviewing previous findings, documentation, handover and a concluding discussion. At least 10 minutes shall be allocated for each follow-up contact, including documentation and handover.

Guidance and liaison services: At least 45 minutes shall be allocated for the first patient contact, including time for dialogue, reviewing records and previous findings, examination, documentation, handover and a concluding discussion. At least 20 minutes shall be allocated for each follow-up contact, including documentation and handover.

Pain service technological resources

The basic configuration of this workplace deviates from the recommendations by the DGAI and the BDA regarding the infrastructure of the anaesthesiologic workplace because a major part of the service is provided in a mobile fashion on other units [21]. The provision of specialized pain management by the PS encompasses the following technological requirements:

- Devices for registering pain intensity (suited to age and cognition)
- Tools required for physical examination and basic neurological exam
- Mobile pulse oximeter (CE and approved for use)
- Supply cart or other repository (or a ward-based solution) providing hygienic storage for dressing materials and other consumables required for patient-contacts on the ward
- Dressing materials and consumables, replacements for pump systems
- A documentation system available throughout, or a bespoke documentation system
- Mobile pump systems and/or stationary syringe drivers (CE and approved for use)

Pain service spatial resources

Provision of patient care by the PS is usually within the confines of the unit responsible for the patient's general care. Despite this, to ensure a professional working environment and that patients' privacy is observed, internal solutions (e.g. co-utilization of outpatient facilities or admission cubicles) shall be found, ensuring that the PS can utilize an appropriate examination room to provide sensitive patient care outside the primary unit if necessary. Furthermore, appropriate storage space shall be made available to ensure that PS documentation is shielded from uninvolved third parties and that pharmaceuticals, infusion and pump materials and other consumables can be stored safely and correctly. In addition, a workplace should be provided for documentation purposes, providing the PS with all required clinical information technology resources. Spatial resources must conform to the legal requirements for workplace safety.

Financial provisions for pain service resources

The PS provides system-wide services across the boundaries of departments, which on the one hand makes it essential to finance whilst on the other hand causing difficulties in providing comprehensive financing. Ensuring the provision of specialized care should take on a high priority both across specialist and departmental boundaries. A sufficient and predictable distinct budget shall be provided for the PS.

Working structures

To establish transparency and ensure the requisite quality of care, in addition to the written agreements between the disciplines all important treatment processes should be defined in a structured form as "standard operating procedures" (SOP). Co-treatment during routine care should be provided on the basis of predefined indications. In addition, binding triggers should be defined, activation of which lead to guidance or co-treatment by the PS. Provision of care by the PS for routine indications as well as the possibility of provision of guidance and co-treatment outside routine situations should be included in written interdisciplinary treatment pathways. Standards pertaining to departmental treatment processes and interdepartmental treatment pathways shall be available to and accessible for all members of staff in a transparent and current form.

Conflicts of Interest

J. Erlenwein:

Speakers fees paid by Grünenthal, Aachen/Germany, and Braun Melsungen, Melsungen/Germany;

German Society for Anaesthesiology and Intensive Care Medicine (DGAI, Nuremberg/Germany), member of the working party on pain medicine;

German Pain Society, Berlin/Germany, spokesperson for the working party on acute pain, member of the ad hoc commission on certification, working party on back pain

W. Meißner:

Speakers fees paid by Bionorica, BioQ-Pharma, TAD, Mundipharma int., Menarini, Grünenthal;

DGAI 2nd spokesperson for the working party on pain medicine;

German Pain Society – member of the executive committee

F. Petzke:

German Pain Society – member of the permanent advisory council, working party on pain medicine;

German Society for Anaesthesiology and Intensive Care Medicine (DGAI, Nuremberg/Germany), member of the working party on pain medicine

E. Pogatzki-Zahn (past 5 years):

Speakers fees paid by Grünenthal, Mundipharma, MSD and MERCK Sharp and Dome, Braun; TAD-Pharma, Consulting fees (advisory board/consulting) paid by Grünenthal, Mundipharma, JanssenCilag, AcelRx, MSD and MERCK Sharp and Dome, Fresenius Kabi, Trials

(third-party funds WWU): Mundipharma and Grünenthal;

International Association for the Study of Pain (IASP, Washington DC, USA): Council member; Chair IASP Acute Pain Special Interest Group, PRF (Pain Research Forum) editorial board;

German Society for Anaesthesiology and Intensive Care Medicine (DGAI, Nuremberg/Germany), recording clerk for and member of the working party on pain medicine, lead appointee to the acute pain guideline;

German Pain Society, Berlin/Germany: member of the executive committee (recording clerk), spokesperson for the research commission, member of the ad hoc commission on certification, member ad hoc specialization, advisory board member for Pain2020, member of the working party on acute pain;

European Society of Anaesthesiology (ESA): Chair subcommittee 8 (acute and chronic pain and palliative care);

Member of the working group "Prospect" (www.postoppain.org)

U. Stamer:

Speakers fees paid by Grünenthal, Syntetica;

German Pain Society, Berlin/Germany, spokesperson for the working party on acute pain

W. Koppert:

German Society for Anaesthesiology and Intensive Care Medicine (DGAI) – executive committee – spokesperson for the working party on pain medicine;

German Pain Society – executive committee (spokesperson for the expert advisory committee);

Advisory board Grünenthal, Aachen/Germany Product: Zalviso;

Lecturing for Grünenthal, CSL Behring

Departmental partnerships, without personal emolument:

- Dräger, Lübeck/Germany (respiratory technologies)
- Storz, Tuttlingen/Germany (airway management)
- Abbott, Wiesbaden/Germany (simulation)

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