I congratulate and express appreciation to Mann and Refshauge for their comprehensive analysis of the causes of complications from cervical spine manipulation (Mann and Refshauge 2001).

This review of the changes in vertebral artery blood flow induced by different neck positions, and the factors which may result in failure of the vertebral artery, were timely reminders.

I wish to comment on the statement that vertebrobasilar complications can occur from minor trauma. The purpose of my correspondence is to raise awareness about the potential risk to the vertebrobasilar system with even gentle mobilisation procedures or cervical traction.

In 1998, the Centre for Physiotherapy Research (Grimmer 1998) elicited responses from 562 members of the MPAA, representing 65% of the membership, regarding techniques used in their practices and the incidence of complications. Passive mobilisation was used by 99.8% of respondents, and cervical traction was reported by 94.9% of respondents.

With respect to complications, there were no reported deaths or cerebrovascular accidents, but temporary effects associated with the vertebrobasilar system were reported. Over all their years of manipulative therapy practice 23.4% of respondents reported one patient with complications, 16.7% of respondents reported between two and 10 patients with complications, and 3.1% of respondents reported more than 10 patients with complications. Twenty-seven-point-five per cent of adverse reactions related to passive mobilisation techniques, and 16.1% to high velocity thrust techniques.

The incidence of these temporary complications with gentler procedures emphasises that it is not only the force, speed, and amplitude associated with manipulations which may account for the risk. Indeed, a recent paper on the unpredictability of cerebrovascular ischaemia associated with cervical spine manipulation reported that most vertebrobasilar artery dissections occur in the absence of cervical manipulation, either spontaneously or after trivial trauma, or with common daily movements of the neck (Haldeman et al 2002).

The clinical guidelines for pre-manipulative procedures for the cervical spine stress precautions and protocols for “every” patient undergoing “any form” of treatment of the cervical spine. However, because these guidelines focus on high velocity techniques and end of range techniques, it may sometimes be overlooked that these precautions apply equally to mobilisation or cervical traction.

I consider it would be appropriate to emphasise an additional precaution when using gentler techniques. The onset of neurologic dysfunction following cervical treatments is most commonly within 48 hours, but may be a longer interval (Haldeman et al 2002). It is therefore important to repeat subjective questioning at each treatment session during a course of cervical mobilisation, in order to be alerted to even temporary vertebrobasilar symptomatology which may have developed during the interval between treatments.

Greg Schneider
Sydney


Sustainable graduate education and professional competency. (Comment on Crosbie J et al, Australian Journal of Physiotherapy 48: 5-7.)

There are many stakeholders in the continuing evolution of the tertiary physiotherapy education industry. I congratulate the Heads of the Schools of Physiotherapy for their contribution to the discussion of competency and the profession in the most recent Australian Journal of Physiotherapy Editorial (Crosbie et al 2002). I believe that the consensus of the Heads of Schools and the decisions of the accreditation body represent major forces in producing change in this industry.

The editorial focus was on the undergraduate competencies, however, any changes achieved will also benchmark potential changes in the graduate entry Masters programs, continuing mandatory professional development of qualified physiotherapists and postgraduate clinical specialisation training programs. It could be argued that the focus on the undergraduate program has been fuelled by comparison of relative competencies and credits afforded to the new graduate entry Masters programs.

Any changes, however, need to balance two competing pressures, viz the financial and logistical constraints in teaching clinical decision-making and specific skills training reported by the education providers and, secondly, the basic competencies that the profession expects will be taught within undergraduate courses.

I believe that one essential issue pertinent to physiotherapy
Letters to the Editor

Important questions for all members of our profession are posed by the thought-provoking Editorial in the last issue. (Comment on Crosbie J et al, Australian Journal of Physiotherapy 48: 5-7.)

Important questions for all members of our profession are posed by the thought-provoking Editorial in the last issue of the Australian Journal of Physiotherapy (Crosbie et al 2002). In essence, the Editorial asks: where will the physiotherapy profession be in 2020? The stakeholders who must play a part in addressing this question include registration boards, physiotherapy employers, universities, the Australian Physiotherapy Association (APA) and, most importantly, individual physiotherapists who collectively form “our profession”.

The Australian Physiotherapy Association (APA) has been working to address several of the issues raised over many years. Several of the authors of the Editorial have participated in the development of the APA Charter of Educational Standards, the development of competency standards that describe advanced levels of knowledge, skills and attributes in several areas of specialty in physiotherapy, and the APA Professional Development Framework. All of these documents seek to support and foster university-based postgraduate education.

It has long been recognised that specialisation is not a single step, but a staged process. In mid-1996, an APA working party was formed to review the process of specialisation in physiotherapy conducted under the auspices of the Australian College of Physiotherapists. In order to address the complexity and volume of work required to develop a professional development framework that incorporates specialisation, the APA has employed part time project officers since January 2000. Discussion forums regarding the revised specialisation process were held in each State and Territory of Australia in 2001. Attendance at these forums was poor – in some cases, the forums were cancelled due to lack of interest. Despite this apparent apathy, work has continued with several of the APA National Special Groups to develop a professional development framework that encompasses the revised process of specialisation. Successful implementation of the process will depend upon individual physiotherapists.

For many years, the APA has met with Heads of Schools of Physiotherapy in Australia and New Zealand to discuss professional issues including those raised in the Editorial. Representatives of the APA attended meetings with several of the authors of the Editorial in 1999 and 2000 to establish links and foster articulation between university-based education and professional development offered through the APA. During 2001, all universities were invited to discuss development of courses that formally recognised completion of APA accredited professional development activities in terms of credit points or higher standing for students enrolling in postgraduate programs.

Given the continually growing body of knowledge and skills in our profession, surely it is appropriate to consider postgraduate training as integral to contemporary physiotherapy practice. However, this logic does not appear to be shared by many in our profession. A recent survey of members in Victoria indicates that most physiotherapists are not interested in pursuing postgraduate education. The main reason cited is the lack of tangible benefits to offset the significant financial and time inputs.

Who is responsible for providing these tangible benefits? First and foremost, financial reward is the responsibility of the practitioner themselves. Why is it that physiotherapists continue to undervalue their services? Research commissioned by the National Private Practitioners Group of the APA indicates that the average cost of a physiotherapy consultation – both initial and standard – has risen around five dollars since 1998. In other markets, expensive products are implicitly considered to be better quality - physiotherapists must recognise that Australian business operates in a competitive environment. In fact, the Federal Government established the Australian Competition and Consumer Commission (ACCC) to...
ensure competition. Physiotherapists who have invested in postgraduate education and continuing professional development to ensure they acquire advanced knowledge and skills need to assess their value in the healthcare market relative to other physiotherapists and other professions. The ACCC enforces legislation that prevents the APA from publishing a schedule of recommended fees. It is up to individual practitioners to set fees that reflect their market value and the costs of maintaining their practice - including education.

Other tangible benefits include recognition – both peer and external. The revised process of specialisation provides two levels of recognition via award of a title for physiotherapists who demonstrate advanced levels of knowledge and skills, for example, “APA Sports Physiotherapist” and “APA Specialist in Sports Physiotherapy”. This provides tangible recognition via a different “brand” to physiotherapists who have not demonstrated advanced levels of knowledge and skills. Already, some external parties including employers and compensable bodies have recognised these titles in the form of increased remuneration for physiotherapy services. Interestingly, peer recognition in the form of referral is poor - again, it is up to individual physiotherapists to embrace the concept of specialisation and incorporate specialist practitioners into the fabric of our profession.

Our profession is imploding. Resistance to change, unwillingness to embrace opportunities to define what makes physiotherapy unique, and continued refusal to acknowledge the highly competitive environment in which our profession is practising threaten to eliminate physiotherapy. Unless individual physiotherapists who collectively form “our profession” recognise the importance of postgraduate education, the fundamental necessity of a career pathway and the vital influence of market forces, our profession will stagnate.

So, the challenges are there. The issues raised most certainly require urgent discussion, but meaningful discussion requires interest, not apathy and resistance to change. All stakeholders must be prepared to tackle these issues now - before physiotherapy in Australia is absorbed by like professions.

Margaret Grant
Melbourne


Physiotherapists risk losing their identity. (Comment on Crosbie J et al, Australian Journal of Physiotherapy 48: 5-7.)

The Heads of Schools of Australia and New Zealand have challenged the profession to consider how the universities are to continue producing physiotherapists who satisfy the expectations of the profession in the current health and tertiary education environment (Crosbie et al 2002). Their discussion primarily focuses on undergraduate education and the need to consider a specialisation process. However, the issues raised by the Heads have far greater implications. The Editorial in fact begs the broader question: will the profession of physiotherapy exist in 20 years time and if so, in what form? Will physiotherapists (in particular clinicians) still have a role or will a physiotherapy qualification be the springboard for careers in health management, health research and health promotion?

The APA, as a member-based organisation responsible for the advocacy of physiotherapy, has developed a framework for specialisation which establishes a career path for a graduate physiotherapist to progress to a specialist level of clinical practice. The framework is yet to be fully implemented, however there has been significant progress in defining the expectations for the titled stage of the process. Whilst the framework takes shape as a result of the input from various groups within the profession, the real challenge remains in motivating the profession to recognise and pursue specialisation as a worthy goal.

For a specialisation framework to operate effectively, the profession must be able to appreciate and utilise the knowledge and skills of expert physiotherapists through a system of consultation. There is a tendency within the profession to consider that the undergraduate qualification is sufficient to equip physiotherapists to deal with most clinical situations. This is evidenced by the fact that very few physiotherapists undertake postgraduate studies in clinical specialties. Without the development of knowledge and skills beyond that afforded by the undergraduate qualification, physiotherapists run the risk of losing the ability to distinguish themselves from competitors in the health market. In recent years we have seen “traditional” areas of clinical physiotherapy being taken up by other professions such as nurses, massage therapists, sports trainers, exercise physiologists and rehabilitation specialists of various titles, to name but a few. In an era of “credentialism”, formal postgraduate education is essential if the profession wishes to demonstrate its credibility to a market place that is increasingly competitive and discerning.

Recognising and developing experts is one aspect of specialisation, a system of consultation is the other vital aspect. The profession needs to develop and utilise a system of consultation between practitioners of differing levels of expertise and also between areas of practice (such as musculoskeletal, women’s health, sports, gerontology etc). A formal system which allows experts to provide advice for the ongoing management of complex, multifactorial or specialised cases would greatly enhance the efficacy of physiotherapy and provide a significant competitive edge to our profession.

Physiotherapists have very little experience in seeking or providing advice from other physiotherapists. The most common situation in which physiotherapists can experience a system of consultation is in large clinical
settings where there are ‘senior’ or more experienced practitioners, large public hospitals being the most common. With changes to workplace arrangements, these settings are disappearing and so the possibility for development through this type of experience is also disappearing. The other common form of consultation occurs in relation to compensable bodies when it is mandated through legislation that long term cases are reviewed by independent assessors. Often this experience is treated with suspicion by the treating physiotherapist, since there is a possibility the independent assessor may become the treating physiotherapist.

A system of consultation that recognises the role of the expert, and which is sufficiently viable to allow the expert to function within that role, would greatly enhance the services provided by physiotherapy. Such a system would provide graduates with a clear pathway for career development and would allow the profession to demonstrate its considerable expertise in clinical areas that are the province of physiotherapy.

Physiotherapy is a profession that has evolved over time to make significant and unique contributions to the area of health care. If the profession is to continue to contribute and have a role in the provision of health care well into the 21st century, there is an urgent need to further evolve the clinical services we offer and how they are to be provided. This will require the co-operative efforts of physiotherapists in all areas of practice to ensure we remain a recognisable and cohesive unit capable of shaping our own destiny.

**Louise Wellington**
Brisbane


Conclusions of Superthumb study may have clouded the issue of manual handling stress. (Comment on Maher CG et al, *Australian Journal of Physiotherapy* 48: 25-30.)

I write regarding the article in the *Australian Journal of Physiotherapy* by Maher et al (2002). I am concerned that the conclusion reached from the research is misleading in two respects.

Firstly, in the conclusion it is stated “the results of our study argue against the use of either tool in their current form” (Maher et al 2002). This hardly appears a valid conclusion from the research in relation to the Superthumb. The Superthumb is clearly a device designed to eliminate the stress placed on the thumb, the information supplied on purchase of this tool only refers to this and doesn’t mention wrist or hand pain.

The common manual techniques involving the greatest stress on the thumb are invariably unilateral mobilisations in the lumbar region. In contrast the most common central PA technique in the lumbar region is delivered with a pisiform grip. Why did the study use a central PA mobilisation of the lumbar spine (my assumption, because this fact was not stated in the article) to determine the clinical justification of a thumb sparing device?

Secondly, it is stated “both tools are significantly less comfortable than the pisiform grip” (Maher et al 2002). If unilateral PA with the therapists’ thumbs had been compared with unilateral PA applied with the Superthumb, a more valid conclusion regarding the therapists’ comfort may have been arrived at. Instead, it was compared with the pisiform grip.

The issue of minimising manual handling stress for therapists is undoubtedly an important one and the conclusions from this article have further clouded this issue rather than helped to solve or direct further research into this problem.

**Paul Molnar**
Melbourne


**Criticism of Superthumb may be invalid.**

We commend Maher, Latimer and Starkey (2002) for investigating aspects of the clinical utility of two manual therapy tools designed to reduce the risk of occupational injury in manual therapists.

Superthumb was designed by a small group of musculoskeletal physiotherapists in response to their own thumb pain, and in recognition of a broader need in the manual therapy community. A number of prototypes were trialled over a two year period with the principal design criteria being: the mobilisation force should pass through the broadest cross-sectional area of the hand and wrist to reduce therapist risk, the tool should be capable of being used by therapists of both genders with hands of varying size, the tool should be capable of being used in a variety of mobilisation techniques in a number of areas in the body, there should be minimal attenuation of palpatory information, and the tool should be as comfortable as possible for patient and therapist.

We recognised that Maitland mobilisation techniques using the thumbs appeared to be the most irritating to therapists with thumb pain, based both on anecdotal evidence and on the available empirical evidence. Jensen (1983) found that a significantly greater number of manipulative therapists using Maitland mobilisation techniques had thumb and wrist symptoms compared with manipulative therapists not
using Maitland techniques and with other physiotherapists. Balon (1984) found that a significantly larger portion of manipulative therapists had thumb problems than wrist problems. Wan (1986) in a biomechanical study of thumb interphalangeal and metacarpal joint compressive forces during Maitland mobilisation PA Grade IV techniques found that mean joint compressive forces exceeded the known values of fatigue tolerance of articular cartilage and the compressive tolerance of cancellous bone. At the time of the design phase (1996/97), this was the only evidence available to the design team, and the tool was deliberately intended to be useful as a substitute for these ‘higher risk’ mobilisation techniques. In our view it is unlikely that one tool will be ideal for all techniques in all body areas.

Maher, Latimer and Starkey have compared a pisiform grip and two mobilising tools during a Grade III lumbar spine mobilisation (presumably a central PA), using the outcome criteria of stiffness discriminability, stiffness perception, therapist comfort and patient comfort.

In their first study, they found equivalent ability of detecting small differences in elastic stiffness. They also found that use of both tools produced stiffness perceptions of a given stimuli that were stiffer than when sensed with the human hand alone. They also note that “…it may be possible to design manual therapy tools that actually improve the therapist’s ability to judge physical parameters such as stiffness.” What their data does not and cannot provide is any indication as to which perception is a closer approximation to reality.

In their second study, they found that both tools were substantially less comfortable than the pisiform grip and on this basis concluded that “neither tool, in its current form, is suitable for clinical practice”. In our view it is not reasonable to reach this conclusion for the following reasons. (1) The reported comfort was measured when using a technique that is not the technique that the tool was primarily designed for. (2) The reported comfort was measured when using single mobilisation technique only. (3) The therapists in the trial had only five minutes experience with each device. Our experience is that it takes some time to acclimatise to the use of a new form of mobilisation and that with experience the technique becomes more comfortable. The protocol of this study is the same as asking therapists to rate the relative comfort of a manual technique that they have been using for 10 years with a new manual technique that they have been using for five minutes. (4) The mock patients were all physiotherapy staff and students. Both physiotherapists and patients were non-blinded and non-naive. In our view, there is a culture in manual therapy that subscribes to the notion that mobilisation with the hand is superior to other forms as it allows the capacity for greater dexterity and sensory feedback. The raters of comfort in this study are likely to have been exposed to this culture and this may have influenced their perceptions of comfort.

In our view, it is highly likely that dispersing joint compression forces from a cross-sectional area the size of the thumb joints to a cross-sectional area the size of the wrist is likely to reduce therapist risk of injury. We do not have empirical data to support this view but this paper does not present any data that would modify this view.

We welcome Maher, Latimer and Starkey’s recommendations for design changes to the Superthumb tool. There is a pressing need for strategies to reduce occupational injury in manual therapists. The Superthumb design team are happy to give all rights to this design to any team or research institution that would like to refine the design for the benefit of manual therapists.

Rob Laird and Peter Kent
SuperThumb Pty Ltd


We cannot agree with any of the points Molnar raises. The Superthumb web page explicitly states that the device reduces hand pain and fatigue (Superthumb 2002) so the writer misleads the readers of the Journal by stating that the information provided on Superthumb only refers to thumb pain and does not mention wrist or hand pain. We are disappointed that he has done this.

The second criticism seems to presume that a different result would arise if we evaluated the thumb grip rather than the pisiform grip. This criticism is similar to the one raised by Laird and Kent. However, we would prefer to conduct research to evaluate such hypotheses rather than simply make educated guesses.

Lastly, Molnar suggests that our research has “…clouded this issue rather than helped to solve or direct further research into this problem”. Such a conclusion suggests that he has not read our paper closely. On page 29, we clearly state that both devices do not interfere with the
therapist’s ability to discriminate stiffness. Prior to our study, this was not known and so we have clarified rather than clouded this issue. In addition, we have clearly shown that both devices are problematic with respect to patient and therapist comfort. Again, these results provide clarity whereas in the past there was no information on this issue. We think our article will help direct further research because we have provided clear details of our methods and in the article we outline some simple strategies that may improve Superthumb comfort. The paper has generated considerable correspondence, so we feel that our work has brought attention to this important issue.

We would like to thank Laird and Kent for sharing with the readers the detailed steps they went through when developing Superthumb. We understand this process because we have also had to develop instruments, however these were for use in our research studies. The frustrating part of the process is that simple inspection of the finished product reveals none of the sweat and tears that were expended in the prototype development stage.

Having considered Laird and Kent’s letter, we still stand by our original conclusion that neither tool, in its current form, is suitable for clinical practice. The only data available on the device is provided by our study and it shows quite clearly that Superthumb does not do what it is claimed to do: both patients and therapists find it less comfortable than manual mobilisation. If you ignored our data, the most optimistic appraisal possible for Superthumb is that it is of unknown value. We have a problem endorsing a product for use in clinical practice if it is of unknown value. Laird and Kent argue that if we compared Superthumb with another mobilisation, gave the subjects more time to practise and found some naïve subjects, we would find that Superthumb is superior to manual mobilisation. However, we find arguments without data unconvincing. The most robust way to answer such hypotheses would be to conduct additional research. We are currently planning further study in this area and we will consider evaluating Laird and Kent’s hypotheses at that time.

Lastly, we would like to correct any misconceptions that may have arisen from Laird and Kent’s comment on our study that “What their data does not and cannot provide is any indication as to which perception is a closer approximation to reality.” Because we measured both the stiffness of the physical stimuli presented to subjects and the subjects rating of perceived stiffness magnitude our data provides a very clear answer to that issue. For readers who are interested, Figure 2B in our paper shows that the Kneeshaw device allows a perception of stiffness magnitude that is a closer approximation to reality than either the pisiform grip or Superthumb.

Chris Maher and Jane Latimer  
The University of Sydney


The Bobath concept has changed.  
(Comment on Critically Appraised Paper, Australian Journal of Physiotherapy 48: 59.)

We wish to comment on a Critically Appraised Paper, “Motor Relearning Program approach improves short-term motor outcomes and reduces hospital stay after stroke,” published in the Australian Journal of Physiotherapy (Volume 48, p. 59). This paper (Langhammer and Stanghellie 2000) claims to compare two physiotherapy approaches; the Bobath approach and the Motor Relearning Program. The authors of the study attempted to standardise the two programs according to background literature by preparing a manual describing the main philosophy behind each of the methods and holding workshops to co-ordinate treatments according to the manual. The authors state that the framework of the Bobath concept is based on reflex hierarchical theory. This framework was developed by the Bobaths in the 1940s on the basis of the available understanding of neurology at that time. The Bobath concept has developed significantly over the last 50 years, together with the explosion of knowledge in neuroscience, and is now based on the systems approach to motor control, with neuroplasticity as the primary mechanism for neurological recovery. These developments have been described by Lennon (1996).

As well as being out of date on the current philosophy behind the practice of the Bobath concept, the authors appear to be unaware that the Bobath concept requires skill in its application to the neurological patient. The Bobath concept is studied around the world in short, intensive courses for postgraduate therapists at introductory, basic and advanced levels. The emphasis in these courses is on skill acquisition, both in practical sessions, analysing normal movement, and in supervised practice with clients. Successful use of the Bobath concept requires established skills in the detailed assessment of postural alignment and patterns of muscle activation in multiple motor tasks, in complex problem solving and in interventions that may require highly skilled manual handling. This level of skill can not be achieved by reading a manual and participating in workshops aimed at identifying the differences between the two approaches. We believe that an accurate evaluation of the Bobath concept requires the use of skilled practitioners. We make no apologies for the high level of skill required to practise using the Bobath concept. The ongoing demand for courses from dedicated clinicians seeking to increase their skill level supports this view. We welcome and encourage valid research endeavours investigating the practice of the Bobath concept, provided that it is recognised that a level of proficiency in the skills is necessary.

Kim Brock, Kim Jennings, Janet Stevens and Shauna Picard  
Australian Bobath Tutors Association

Then it’s not the Bobaths’ concept any more. (Reply to Brock et al, Australian Journal of Physiotherapy 48:.....)

Australian universities seem to produce a lot of interesting research in the field of physiotherapy. Since Australia is also the “homeland” of the Motor Relearning Program, we would have thought this method was widely used in this part of the world, but now we have the impression that this is not so.

However, it is inspiring to get comments and constructive criticism. It gives us as researchers an opportunity to clear up misunderstandings and to clarify our procedures. There are few randomised and controlled studies within physiotherapy in neurological rehabilitation and we hoped our study would encourage more. We know that research is important in order to get more evidence-based physiotherapy. However, this means that we risk losing some of the theories that our practice is based upon.

In our study we wanted to present two physiotherapy approaches in neurological rehabilitation, the Motor Relearning Program and the Bobath method. In order to do so, we went to the sources of information, the original writers.

The Bobaths have presented their methods and theories in several books (Bobath 1974 and 1990). They were very explicit when they presented the neurophysiological explanations of their method. I had the pleasure of attending several courses led by the Bobaths and Pat Davies in Bad Ragaz, Switzerland. This also included clinical practice under their guidance in Valens with many other physiotherapists. What I remember most vividly is Ms Bobath’s strict belief in keeping the method “clean”, that is, not incorporating any other hypotheses into the approach. The Bobaths were pioneers in introducing a theoretical framework to their method, based on the research available at that time. They elevated the Bobath method and clinical practice to a scientific level. It has been an inspiration for all of us.

The International Bobath Instructors Training Association cannot, to our knowledge, alter this theoretical framework without altering the approach. Then it ceases to be a Bobath concept and becomes something new, based on another neurophysiological explanation with another approach to practice. This fact is also recognised by other authors (Lennon et al 2002).

We are aware that the Bobath tutors around the world are incorporating new knowledge into the Bobath concept. The Bobaths have not made these alterations to their basic work nor have they presented any books supporting these changes. Can you make alterations of this sort of an original author without their consent when research changes our understanding? We believe you cannot.

If you incorporate new theories in line with the old ones will this change practice? The Bobath method is associated with inhibition/facilitation techniques. Will this new base of theory be practised or will it mirror the “old” approach? To quote Horak: “The questions a physiotherapist asks herself when treating a neurological patient will reveal the presumptions the physiotherapist has of how the brain controls movement” and “It is of importance that physiotherapists are aware of their own presumptions and the presumptions that neuroscientists have on motor control because these presumptions will form, structure and limit the physiotherapists observations and treatment of neurological patients” (Horak 1991).

As for our study and the practice of physiotherapy, the physiotherapists who took part in the study and who practised the Bobath method were all very experienced physiotherapists. They had 15 to 20 years of practice in neurological rehabilitation and were skilled in assessment and manual handling. They had attended Bobath courses both basic and advanced and were skilled therapists.

To do both approaches justice and to “sharpen” our definitions, we developed the manuals and held workshops, in order to give everybody an opportunity to make their comments. Where necessary, we made alterations within the limits of the original authors description before we started the study so that both methods were practised as identical as possible within the groups. We wanted to do justice to both approaches in order to get a valid result. We believe that we succeeded and that our results are reliable and valid. Normally, it is considered that other groups should confirm our results before today’s practice is changed, and our results show that this is needed.

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