



Let's Get It Clear No.21

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By Dr Barend ter Haar

Do no harm, know your power

In this article, we look at the duty of care that should be practiced towards our clients by us as prescribers. This is as relevant whether we are working within the commercial sector or as an allied health professional in the public sector. Our duty is always to give our client the very best possible solution for maintaining or improving their health outcome. We know this of course, but what are the obstacles in the way, and what powers do we have to overcome these obstacles?

Doctors swear the Hippocratic Oath as their moral code for ethical conduct and practice in medicine, which, after starting: "I swear by Apollo the physician, by Aesculapius, Hygeia, and Panacea..." goes on to include the most commonly quoted statement "I will prescribe regimens for the good of my patients according to my ability and my judgements and never do harm to anyone."

Although it's doctors who swear the Hippocratic Oath, surely this should apply equally to everyone involved in delivering patient care? Stories abound of surgeons who have refused to carry on with an operation because they were not happy with the equipment they were being issued

with, be it due to not having been appropriately cleaned and sterilised, or because they considered a piece of procured equipment not being fit for their purposes. For the sake of the patient, shouldn't all health professionals put their heads above the parapet and make the same stand if they find themselves in a situation of concern as to whether they are providing the best solution?

Setting standards?

These days most prescribers of a wheelchair, that would be used in a vehicle, would first ask whether it, and its seating system, had been crash-tested (by crash-tested, they actually mean crash-worthy i.e. that it had passed the test!). What they are really asking is whether the wheelchair had passed BS ISO 7176-19¹, and if the seating system (if a separate unit) had passed ISO 16840-4². Transportation laws and testing are now part of all of our everyday lives (for example the use of a seat belt when driving). As a result we now take these in our stride, and prescribe an appropriate product that avoids any potential 'harm' likely to occur in transportation to the wheelchair occupant. (Interestingly, much of the transportation standards were originally oriented around avoiding harm to other vehicle occupants from the wheelchair and its components becoming loose in the vehicle in an accident!)

BELT SLIPPAGE: BELTS TESTED TO BS ISO 16840-3 REPETITIVE AND STATIC LOAD TESTS

The test shown here is for measuring whether a belt will stay in position under a repetitive load...



Figure 1. The blue dots on the top and bottom webbing indicate the starting position before the repetitive load is applied.



Figure 3. At the end of the test the blue dots are more than 10mm (i.e. 56mm) apart: FAIL



Figure 2. At the end of the test the blue dots are still within 10mm of each other: PASS



Figure 4. Grommet fixture undergoing a static load test: FAIL

But how do we avoid potential 'harms' to wheelchair users outside vehicular transport? The earlier BS/ISO standards (the BS ISO 7176 series) concentrated on safety aspects of the wheelchair. From these, purchasers of tested equipment should be confident that the wheelchair will withstand day-to-day use, including on rough terrain, be electrically safe, be fire resistant, be safe in vehicles, etc. The next generation of standards looked more at the safety of the seated wheelchair occupant (the BS ISO 16840 series). Despite the importance of these standards, they are still not being used widely enough, either by those managers involved in equipment selection, nor by clinicians prescribing it. Thus this is one area where possible 'harms' are still happening.

Safety in seating

Where you require a positioning belt for a wheelchair user, do you demand that it has been tested to BS ISO 16840-3³? Many belts may look the same, but many will not pass these tests (see box on previous page).

Likewise, do you follow BS 8625⁴ when you select and position a belt or harness to a chair (note that this standard covers shower chairs as much as wheelchairs)? BS 8625 arose because 'harms' were being reported as a result of wrongly positioned belts and harnesses, with users submarining or slipping under the belts and choking to death. Often this had occurred because pelvic positioning belts were being placed at 45° across the hips (like a vehicle or plane seat safety belt) instead of across the thighs. BS 8625 covers clearly, and in more detail, what the differences are, and appropriate requirements for a restraint as compared with a positioning item.

While some of the seating standards encompass testing of cushions used in seating, including their physical properties and durability, other standards provide guidance as well. One such guidance document (ISO/TR 16840-9⁵) is around the use of a pressure mapping system as a day-to-day tool to assess the pressure redistribution characteristics of a seating system, and at the same time offering feedback to optimise the risks and benefits of different positioning setups of the seating system.

To help you make the best decisions on equipment, it is well worth asking your suppliers to provide you with these standardised objective data (derived from relevant standards testing), to help you select the best seating materials for your client.

A penny spent, a pound saved

To what extent do you feel that your hands are tied by your set-up's procurement processes? Often those in charge of procurement are tasked to keep prices as low as possible, and thus sometimes can take a short-term 'commoditised' view of items. Unfortunately, this approach does not necessarily take account of the long-term additional costs that a short-term cheap solution offers. It is therefore important that (if you can!) you, the prescriber, remind the

procurement department that these are prescription items, that 'one size does not usually fit all', and that medical equipment is not a commodity. The right product needs to be provided to do the right job to meet your professional standards..., and deliver the right outcome for the client. Know your power! Exert it.

Why do procurement departments need your help?

The reason is that nowadays there is so much choice in the market, arising from many companies investing in designing and producing items that have small, but significant, incremental improvements for selected groups of patients. It is therefore imperative that clinicians bring procurement departments up-to-date with not only the new solutions on offer to the market, but also the standards to which they should have been tested.

Although sometimes structures and bureaucracy can get in the way, you do have it in your power, and indeed it is your responsibility, to provide the best solution available at the time for the customer. Sometimes this solution may cost a little more initially, but equally may not need to be replaced so frequently long term. Appropriate solutions may well prevent longer term 'harms' by correcting or controlling a source of something that otherwise will need correction, with a lot more additional cost in the future. The true costing of a solution needs to bear in mind the life-time costs, both financial and clinical.

In conclusion

Your professionalism means that you always want the best outcome for your clients and the principle of 'Do No Harm' will resonate with you. Don't accept second best. Be aware that you really do have the power to exert this principle and effect change.

References

1. *BS ISO 7176-19 Wheeled mobility devices for use as seats in motor vehicles*
 2. *ISO 16840-4 Wheelchair seating. Seating systems for use in motor vehicles*
 3. *BS ISO 16840-3 Wheelchair seating. Determination of static, impact and repetitive load strengths for postural support devices*
 4. *BS 8625:2019 Selection, placement and fixation of flexible postural support devices in seating. Specification*
 5. *ISO/TR 16840-9 Wheelchair seating. Clinical interface pressure mapping guidelines for seating*
- For best practice guidelines in transportation, download a pdf of BPG1: Transportation of People Seated in Wheelchairs from <https://www.pmguk.co.uk/resources/best-practice-guidelines/>
 - BES Healthcare and MOVE (a charity which provides training for schools and organisations to enable disabled young people to gain independent movement) recently presented a webinar on the Do No Harm topic which can be viewed at <https://youtu.be/SMSx9dIx-oo>.



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HEALTHCARE

0117 966 6761
info@beshealthcare.net
www.beshealthcare.net

