Pressure
The weight of the body is distributed through the buttocks respectively to wheelchair and cushion. It is a relatively small area, which is going to carry a relatively big share of the weight (1). With the purpose of minimizing the factor of pressure, you can either distribute or relieve pressure, but it is important to understand the differences – and especially the consequences to the wheelchair user.

Pressure distribution
Pressure distribution is the specific factor in a seated position that can be used, as you want to take control over the pressure phenomenon in the seated position. In practice it means that the body weight must be distributed over the biggest possible area in order to minimize pressure on the particularly pressure exposed areas corresponding with the Tuber Ischii and Os Coccygis (16, 19). This means by the use of most of the body – follow the explanation on this later.

The concept of pressure distribution is very often mistaken for the concept of pressure relief, but it is two very different phenomenons.

Pressure distribution in combination with stability are particularly those two factors with a potential for you to help a wheelchair user to prevent pressure and tissue injuries in the seated position (20, 21, 22). This implies an effort to make sure, that activities starting from the seated position continuously are performed safely by the best possible stability and pressure distribution and the best procedure to perform the relevant activity. By optimization of these two factors, you can support the process of healing even during continuously seated performance of activities and occupations (6).

Therefore, to gain the best possible pressure distribution you must show interest to every contact area between the body and the assistive technology meaning buttocks and back as well as the way pressure is distributed through foot – and arm rests. Simultaneously you must show interest in how to prevent inappropriate influence on the seated position of the assistive technology because of an insufficient form.

Read more about the possibilities to distribute pressure in as many contact areas as possible:
To think pressure distribution as a method to prevent pressure and tissue injuries even has a long-term effect on the possibilities of self-reliant handling of tissue injury prevention. It is important – if it is at all possible – that the wheelchair user on his own is able to gain bodily knowledge as to know how the contact areas to the wheelchair is optimal – during rest and during performance of activities. The use of posterior tilt e.g. in electrical wheelchairs can assist in pressure distribution.

Read more about the possibilities in combining pressure distribution and stability with the purpose of minimizing pressure:


Pressure relief

Relevant to the seated position it is common to practice pressure relief and to think this is the answer to pressure and tissue injuries or the risk of it. Unfortunately, this method implies the suggestion of lying regimes in bed at regular intervals. For some it means months or even half a year and years in bed. Unfortunately, this method has serious adverse effects (23, 24):

- For one thing it causes the active wheelchair user no longer can be active during his relief procedure. That is why he is unable to participate in everyday life and even to work.
- For another it means that the physical strength of the wheelchair user deteriorate like everybody else lying in bed will have experienced too. It might menace future capacity of activities and so saying even the experience of life quality (7), not to mention the life-threatening risk in the procedure(23,24).

Read more about the physical reductions and other adverse effects being confined to bed:

However, it is more serious that the idea of relief as a method to prevent pressure and tissue injuries is widely prevalent without leading to the necessary changes as to critical factors in the everyday activity performance, which might explain the emergence of pressure and tissue injuries: pressure and shear (1).

Pressure relief as a principle simply has an extremely limited preventive potential empirically, as we speak about seated positions. New tissue injuries emerge as risky activity performance is resumed. Prevalence of sitting acquired pressure and tissue injuries vary a lot (25) and is a financial burden to the health systems (26, 27, and 28). At the same time, it is difficult to state evidence upon intervals of meaningful pressure reliefs (29) in order to be sure of the preventive effect.

Read more about the difficulties in finding relevant relief intervals based on evidence to make sure that the procedures are preventive to sitting acquired pressure ulcers.


If you will try to gain a lasting change, you need to look at other factors exerting influence on the seated position. Here you need to think pressure distribution and stability. Improving these factors might optimize the interaction between body, assistive technology, and activity performance to a level that might prevent the re-emergence of sitting acquired pressure and tissue injuries. At the same time, we empirically see that this kind of improvements can assist in the recovering process of the existing ulcers.

Read more about empirical experiences as to recovering and prevention of pressure and tissue injuries.