

# Lighten the load

New studies reveal the benefits of support in semi lateral decubitus at 30°.

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Pressure is one of the essential causes of pressure sore development through secondary hypoxemia of the tissues with resulting ischemia. The risk of trophic problems occurring is linked to specific risk factors that are both extrinsic and intrinsic to the person and their immediate surroundings. Changing a patient's position every two to three hours, depending on the level of risk of cutaneous and tissular alteration, is one of the caring practices acknowledged by the experts.<sup>1</sup>

## DDS and DLS at 90°

If strict dorsal decubitus (DDS) exposes the occipital, sacral and heel support regions, strict lateral decubitus (DLS) at 90° exposes the skin at certain anatomical areas, such as the tubercle major (the source of discomfort and pain) and the great trochanter, to vertical stresses on a small area. At these points the tissular mass is thin.

When caring for a person with severe, long-lasting or temporary incapacity, DDS and DLS at 90° expose anatomical areas to high interface pressure and there is a rapid decrease in the partial transcutaneous pressure in oxygen (TCPO<sub>2</sub>). The consequences of intense and prolonged pressure on the trochanter are mainly functional, with a risk of tissular distress that can develop into osteoarthritis of the hip.<sup>2</sup>

The study by Colin et coll. has demonstrated that TCPO<sub>2</sub> values are closely linked to load pressure.<sup>3</sup> The study showed that sustained or strong pressure on a vulnerable anatomical region creates disturbances of the cutaneous and sub-cutaneous micro-circulation, thus encouraging the development of pressure sores.

## DSL at 30°

Following in the footsteps of Seiler, the study concludes that semi lateral decubitus at 30° (DSL) should be widespread and included in the agreements for pressure sore prevention. The aim is, therefore, to preserve the areas at risk: sacrum and trochanters, and to redistribute the points of support onto the posterior-external side of the pelvis. Measurements obtained using an FSA pressure sensor pad system enable viewing of hyper-support areas and demonstrated the obvious advantages of DSL at 30°. Furthermore, the FSA system also shows the limits to exclusive use of bolsters, which only enable rough positioning and may lead to support pressure, leading to discomfort and contamination.

Table 1 expresses the compared values of pressure peaks in relation to the decubitus position adopted. Over and above the DDS data, it shows an abatement in the support pressure on the anatomical regions exposed. You will also notice the total suppression of pressure on the shoulder, with an acceptable redistribution at the dorsal region (40mm of Hg on a standard mattress and 29mm of Hg on an Alova visco-elastic foam mattress overlay). The report on the buttock region is just as tolerable, with the exception of the value found using a pillow as a support. The pressure peak value at trochanter level was abated by 100 per cent.

Table 1 Compared values of pressure peaks in relation to the decubitus position adopted. Variation coefficient — 2.6 per cent  
Patient weight — 84kg Values — mm of Hg

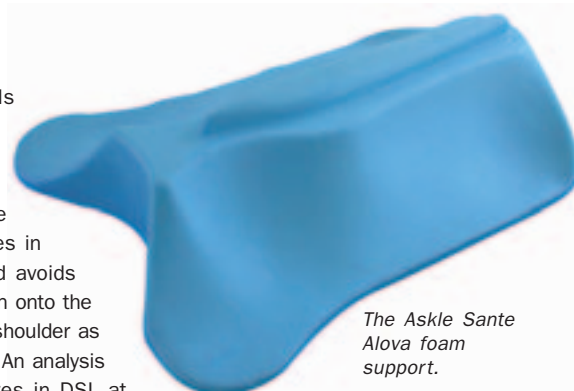
Support	Position	Scapula	Spinal region	Tubercle	Trochanter	Sacrum	Buttock region
Standard mattress	Strict dorsal decubitus	100	69	0	0	40	100
	90° lateral decubitus	0	0	100	100	0	0
	30° propping using pillow	100	100	0	30	40	87
	30° oblique lateral decubitus	40	40	0	0	7.5	55
Alova mattress overlay	Strict dorsal decubitus	30	25	0	0	27	41
	90° lateral decubitus	0	0	100	42	0	20
	30° oblique lateral decubitus	30	29	0	0	14	35

## A new support

The Alova foam aids positioning at 30°, enabling the skin and tissue to be protected from the risk of pressure sores in dorsal decubitus and avoids pressure being thrown onto the trochanters and the shoulder as found in DLS at 90°. An analysis of interface pressures in DSL at 30° shows that there are no injurious

localised pressure peaks on the buttock area. The data gathered from TCPO<sub>2</sub> reinforces this idea. The reduction in risks of infection by cross contamination is obtained by means of a removable cover, compatible with hospital maintenance techniques and the inclusion of bacteriostatic and fungistatic additives in the fabric itself.

DLO at 30° enables a reduction in interface pressures and the preservation of an appropriate vascularisation. In addition, the presence of an anatomical curve helps to maintain the person in a physiological axis. The features of the Alova foam used improve the distribution of support points and patient comfort, and the manoeuvre of changing a patient's position can be carried out by just one carer instead of two, by unilaterally moving the unit by a few degrees. The risk of infection is managed with increased efficiency. ■



The Askle Sante Alova foam support.

1 ANAES. 'Prevention and treatment of pressure sores with adults and elderly subjects.' Consensus Conference 2001 Nov.

2 Nouvel F, Jacquot JM, Abric M. 'Evaluation of the semi-lateral at 30° positioning using the Alova® support.' 5<sup>th</sup> National Conference on wounds and healing.

3 Colin D, Préault L, Lebastard N, Saumet JL. 'Semi-lateral decubitus compared with lateral decubitus by means of measured transcutaneous oxygen pressures.' JPC 1996;2:31-33.