



## CLINICAL, NURSING & PATIENT CARE SPONSORED PROFILE

### Patient Transfer Systems



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# Air-assisted patient transfer: improving efficiency and safety

Patient Transfer Systems, inventor of the Lateral Air Transfer Technology, has been a leading innovator in patient transfer for over 20 years. Patents for the Airpal® have been granted in 13 European countries

**T**he Airpal is designed to reduce the risks associated with patient handling during transfer of patients from bed to stretcher to other areas of the hospital. The Airpal works by the release of low pressure air through perforated chambers. The nylon mattress is placed under the patient and inflated using a lightweight, portable air supply. The patient is transferred on a cushioned film of air, allowing just two members of staff to perform a task which previously may have required four to eight, with minimal risk of injury to both staff and patient.

Advantages include fewer musculoskeletal injuries among staff, and an associated reduction in compensation claims, lost work days and direct medical expenses, as well as increased efficiency with fewer staff required to transfer patients.

### **Integrus Health: reducing workers compensation costs**

Integrus Health is Oklahoma's largest not-for-profit healthcare system and second largest employer, with 10 hospitals, rehabilitation centres, physician clinics, mental health facilities, independent living centres and home health agencies throughout the state. Integrus Health has approximately 8,000 full-time employees. In February of 2003, the company won the Oklahoma Department of Labor Award of Excellence, and in 2004 the Oklahoma Safety Council's Award of Excellence as well as the first CREST Award from the Department of Labor for its safety programmes, and safety policies, as well as its Disability Management Program, which have provided a safe work environment for its employees and reduced worker's compensation costs by more than 50% over a three year period. These innovative programmes have saved Integrus Health \$15 million over the past five years. Integrus has



been able to cut its workers' compensation budget by more than 50% over a six-year period, while payroll, number of full-time employees and productive hours has continued to increase each year. In 1997 Integrus Health's workers' compensation budget was \$4.8 dollars for workers' compensation costs alone. By the year 2000, Integrus Health had reduced its workers' compensation budget to \$2.5 million per year. Not only are workers' compensation costs paid out of this budget, but also the salary for three RN case managers and costs of all ergonomic equipment.

In 1997 Integrus Health's key cost driver was back injuries to nurses from lifting and transferring patients. Integrus began to look at ways prevent these types of injuries. One component of the Disability Management Program is the Safe patient handling policy, which prevents manual lifting and lateral transfers of patients. Airpals are provided to each patient care unit, as well as to central transportation. Per policy, no patient is to be transported without the use of the Airpal and no lateral transfers of patients are to



be made without the use of an Airpal. During product selection, several types of lateral transfer devices were evaluated. Integris Health chose the Airpal for its high degree of patient comfort, ease of use and cleaning, and reduction of injury to employees. The Airpal allows one employee to move an incredible amount of weight with no risk of injury to the patient or themselves.

Different types of procedures can be performed while the patient remains on the Airpal from X-rays to surgery. Integris Health's labour and delivery unit performs all caesarean sections on the Airpal. Use of the Airpal has played an integral part in helping Integris Health reduce its work-related injuries and maintain retention of staff. ■

### Case study: Transfer of the patient with morbid obesity – a problem now made easy

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**O**besity has become a national health and economic crisis in the United States and many countries in Europe. Even more frightening are the statistics showing the ever-increasing prevalence of obesity in the last decade. The implications to the healthcare system are immense.

In addition to the direct weight-related medical morbidities of obesity, hospitals face other more mundane, yet practical, problems – how to care for, transport, and move the patient with severe obesity. Beds, chairs, wheelchairs, stretchers, bathroom commodes, etc. need special safeguards to be able to bear weights of >130 kg (even as great as 400). The transport of such patients to and from tests are, of course, facilitated by patient cooperation in getting on/off the stretcher, etc. But how about transfer of the severely obese patient unable to help, such as the patient immediately postoperatively in the operating theatre or the severely ill patient in the Intensive Care Unit or in the Emergency Department? The protection the healthcare deliverer in the workplace as well as the patient has become of paramount importance.

Our first experience with this ostensibly “simple” problem of patient transfer from the operating theatre table to the heavy duty stretcher became evident when planning a bariatric procedure on a patient weighing 350kg.<sup>1</sup> Because of concerns of potential injury to patient and operating theatre personnel, we “recovered” the patient in the operating theatre until he was awake enough to aid his own transfer from table to stretcher and then to his bed. Similar concerns related to the cognisance of back injuries of nursing and paramedical personnel throughout the hospital lead to a review of aids of patient transport/transfer. The Airpal Patient Lateral Transfer Device (manufactured by Patient Transfer Systems, Inc, Center Valley, PA., USA) offers a safe and minimal assistance device that markedly facilitates transfer of the supine obese patient from bed to stretcher, etc. The Airpal lift system is a smooth air-type mattress placed on the bed or stretcher prior to the patient lying down that slides easily when inflated. This deflated, flat “mattress” is then inflated rapidly (~20 seconds) by a detachable electrical air pump just prior to lateral patient transfer; the patient then slid virtually effortlessly to the receiving surface (usually requiring one to three people for “stabilisation”), then rapidly deflated. The deflated mattress then travels with the patient to aid future transfers. This Airpal system was adopted rapidly also in our intensive care unit and patient nursing ward. No longer are 6–10 people in the operating theatre necessary to transfer the anaesthetised patient from bed-to-stretcher or from stretcher-to-bed on the ward, and the risk of injury is reduced.

Concerns about safety in the workplace (both for the staff as well as the patient) have stimulated an intense interest in various modes of patient mobilisation. We are currently evaluating several types of ceiling-mounted and portable patient “lifts” to aid all types of patient mobilisation such as lying-to-sitting, sitting-to-standing, and support while walking, in addition to lateral-to-lateral transfer. With the increasing prevalence of severe obesity, hospitals face growing concerns of both patient and personnel safety in the transfer and care of these patients. A continued focus on this problem is imperative with the ultimate goal being to provide aids to patient mobilisation such that patient care personnel need not be concerned about such related work-place injury, and patient safety is maximised.

#### Reference

1. Sarr, MG, Felty CL, Hilmer DM, Urban DL, O'Connor G, Hall BA, Rooke TW, Jensen MD. Technical and practical considerations involved in operations in patients weighing more than 270 kg. *Arch Surg* 1995;130:102-5.