

#### 14.2.4 Observation without disturbance to sleep

Lighting in hospital wards suffers from a conflict of interest at night. The patients are trying to sleep, while the staff need to be able to see the patients, move around safely and do detailed work at the nurses' station. The differences between the visual requirements of these activities means that ward lighting needs to be flexible. Crude flexibility can be achieved using switching. Fine flexibility can be designed using dimming.

#### 14.2.5 Emergency lighting

Emergency lighting is required for the movement of patients, staff and visitors to a safe location in an emergency. Some of the people in a hospital will almost certainly be physically incapacitated and/or could be mentally impaired. Because of the likely condition of patients, hospitals do not normally fully evacuate in an emergency. Patients are generally moved by a process called progressive horizontal evacuation from high risk areas to low risk areas while the emergency is brought under control. The emergency lighting should be sufficient to allow easy progressive horizontal evacuation, particularly in those areas where elderly patients may be present. Emergency lighting should be designed to meet the requirements of BS 5266. Design guidance can also be obtained from the SLL Lighting Guide 12: *Emergency lighting design guide* and from Chapter 8 of this *Handbook*.

For hospitals, the minimum illuminance on the centre line of a 2 meter wide escape route should be 1 lx. A minimum illuminance of 0.5 lx should be provided on all non-designated escape route areas requiring emergency lighting. Fire muster points and dedicated refuge areas must be given special consideration to ensure they are illuminated to a minimum of 5 lx and are visible or stand out from the general surrounding area. Illuminated signs on the movement and escape routes should comply fully with BS 5499: Parts 1 and 4 and BS EN 50172.

Standby lighting will be required in certain parts of the hospital to enable essential activities to be carried out in the event of a supply interruption. Hospitals normally work to two standards of illuminance for standby lighting. In critical areas, such as operating theatres, delivery rooms and high dependency units, the illuminance provided by the standby lighting should equal, or nearly equal 90 percent of the normal mains illuminance. Other non-critical but important areas will require standby lighting to a reduced illuminance, generally to 50 percent of the normal mains level.

Where standby lighting is provided by a generator, there will always be a break in the continuity of supply as the engine runs-up so a battery back-up with a minimum of 3 hours capacity to power the lamp(s) should be provided to cover the start-up period and to cater for the possibility that the generator fails to start.

#### 14.2.6 Luminaire safety

All luminaires should comply with the relevant part of BS EN 60598. They should all carry a CE mark with the manufacturer's declaration of conformity to all directives designated under the harmonised European Standards and certified to be in full compliance with the EMC Directive. In addition all luminaires intended for use within clinical areas of healthcare buildings should specifically comply with the requirements of BS EN 60598-2-25.

Electrical safety should be considered a top priority for all electrical apparatus used within hospitals, especially in bed-head luminaires that are accessible to patients. Such luminaires should be either be of Class II construction or supplied from a safe extra-low voltage supply (SELV), as defined in BS EN 60598: Part I: Section 1.2.