

Acoustics in Healthcare

One of the common misconceptions in the industry is that it is expensive to have a good acoustic environment. The truth, shown through years of research, is that the long term benefits and savings far outweigh the initial financial investment.

International research under the banner "Evidence Based Research" has shown that a good acoustic environment:

- lowers blood pressure,
- lowers blood cholesterol levels,
- improves sleep quality,
- reduces intake of pain medication,
- reduces staff stress levels,
- reduces staff mistakes, and
- lowers readmission rates.

Acoustic design in healthcare facilities is a fundamental requirement in many countries. The following excerpt is from the acoustics design guide for the National Health Service (NHS) in the UK (HTM 08-01):

Acoustic design is fundamental to the quality of healthcare buildings. Sound affects us both physiologically and psychologically. Noise, which can be defined as "unwanted sound", can increase heart rate, blood pressure, respiration rate and even blood cholesterol levels. Pleasant sounds help create a sense of well-being. Music can be used to treat depression, to reach autistic people and to calm and relax tense patients.

Good acoustic conditions improve patient privacy and dignity, and promote essential sleep patterns. Such conditions are key to healing. Good acoustic design brings other benefits in terms of patient and staff comfort and morale, as well as improved efficiency and usability of equipment.

A good acoustic environment also improves patient privacy and dignity by keeping confidential speech between patients and staff just that: confidential.

Many developers (such as the NHS) have already realised that in the long term, it is significantly better to have good acoustics in their hospitals and health centres. The initial capital outlay has been shown through research to pay itself back often within the first year or two of operation. Thereafter, the hospital not only has a better environment than its poorly-designed competition, but also has lower running costs.

What is a "good acoustic environment"?

When a space has a good acoustic environment, it is usually calm and quiet. This is achieved using acoustically absorbent materials (often using ceiling tiles and/or wall panels) and an acoustically rated shell (walls, ceiling, glazing and doors). There is also a limit on the amount of noise mechanical services (such as air conditioning) can make.

"Acoustic design is fundamental to the quality of health-care buildings"

The acoustically absorbent materials reduce the amount of noise bouncing around inside the room. The acoustically rated shell reduces the amount of noise from both getting into and out of the room.

To find out more, see *The Role of the Physical Environment in the Hospital of the 21st Century* (<http://tinyurl.com/EBD-Ulrich>).

SRL: experts in healthcare acoustics

At SRL we are the experts in the field of healthcare acoustics. We have worked on well over 30 large (>R1bn) healthcare projects and many more smaller projects. We were the lead consultants on the NHS acoustics design guide HTM 08-01 having written their pioneering first acoustic design guide (HTM 2045) in 1996.

Give us a call on +27 21 680 5305 to see how we can help you to design a better healthcare facility through acoustics.