

100% interior (Sylvia Leydecker),
Rems-Murr Hospital,
Winnenden,
Germany,
2014

Sylvia Leydecker

The subtly structured texture of the walls
of the patient rooms evokes grass moving
in the wind.

Emotional Wellbeing Naturally

Healthy Patient Rooms in Hospitals

Interior design can both support healthcare staff's working practices and help patients to relax and recover. A holistic approach is crucial: structural, visual, haptic and acoustic aspects each have their part to play. Cologne-based interior architect **Sylvia Leydecker** is a specialist in this field. Here, she describes two recent projects by her practice, 100% interior, where a sense of closeness to nature (inside and out) combines with cutting-edge technology and environmental awareness to ensure a positive environment for patients and their families, as well as for those attending to them.

Healing environments and the impact of healthily designed interiors are hot topics in the hospital world. This article will discuss the interior design of hospital rooms and the parameters which influence health and wellbeing generally, as illustrated by two recent projects in Germany designed by the Cologne practice 100% interior: a maternity unit in Essen and private patient rooms at Rems-Murr Hospital in Winnenden.

It is important to start from the patient's point of view. Sick and in need of help, he or she is likely to be feeling afraid and yearning for a caring environment. Apart from medical help, it is the sense of security, safety and trust that helps patients relax and feel better. Creating a room that really works, is sustainable and functional and offers an atmosphere of wellbeing for patients, involves much more than just a quick selection of colours, materials and furniture. It has to meet both emotional and practical needs, being easy to maintain and able to adapt to the future.

Given the global problem of healthcare-associated infections (HCAI), hygiene is crucial in order to ensure patient safety. High standards of hygiene seem to stand in contrast to an atmosphere of emotional wellbeing; but interior architecture in hospitals can kill people if hygiene is not taken seriously. The challenge is to satisfy both hygiene and emotional requirements. There is no need to view hygiene and atmosphere as mutual enemies: ideally the two can be fused together in a healthy patient environment that generates an experience of safety and security, resulting in a swifter and more effective recovery.

Studies have proved that contact with the natural world influences healing in a positive way and helps patients feel better. Human-centred design which is connected to the idea of nature is what this is all about: looking into lush green gardens, towards clear blue skies



100% interior (Sylvia Leydecker),
Maternity Unit,
Elisabeth Hospital,
Essen,
Germany,
2013

above: Protectively curved walls give expectant mothers a sense of safety, helping them to relax.

below: The patient room is given an atmosphere of relaxing wellness through the use of natural lines and colours. The smooth pebbles symbolise patience.



or gently moving clouds; seeing a sunrise; listening to birds; and so on. Especially in times of sickness and fear, most of us need calm and safe places – healing environments, inspired by nature.

The design of healing environments that learn from and are inspired by nature is fundamentally based on creating positive emotions. Rooms need to be designed with a sense of naturally loving care for the patient.

The atmosphere of a room is usually created by the combination of materials and colours, light, structures and textures, forms and lines. Too often only one of these aspects is discussed; but in fact it is neither the colour of the wall, nor the comfort of the seating, nor even the wonderful view that makes patients feel good. It is the overall concept: the combination of distinct components that forms the particular space. It may appear easy to alter a room's atmosphere instantly by changing the colour of its walls with a quick paint job. But what about the other aspects: comfortable furniture; textures of walls and floors; view; light; air temperature; haptic and acoustic qualities; etc?

Light and colour installations that integrate movement and film can be pleasant to relax in front of, for instance in a waiting area. Artificial circadian light, mimicking natural daylight, in combination with soft colours and subtle movement, is even an option for intensive care units. Looking at cables and machines is frightening, so hiding them out of sight is the best solution. Noise is another factor that needs to be minimised, to help prevent patients from falling victim to delirium.

The absence of harmful components in paints, flooring, glues and other products used is important for indoor air quality. The environmental responsibility of hospitals should be expressed by an environmentally friendly production process – a must for a sustainable future.

Smart Materials

Times are changing and costs are shifting. Smart building materials can significantly reduce costs, such as those for energy, which is important for hospitals.¹ Deriving from nanotechnology – a key technology of the 21st century – they can reduce levels of consumption of energy and resources for a sustainable future. Even so, these materials remain little used in the healthcare sector, because of a lack of know-how.

Smart materials can provide a variety of functions such as self-cleaning, easy-to-clean and photocatalytic surfaces. It is important to distinguish between these types. Self-cleaning or Lotus Effect® surfaces are superhydrophobic, meaning that water forms tiny droplets and simply flows away. Because of their microrough texture, Lotus Effect surfaces cannot withstand mechanical exposure such as scrubbing, whereas real lotus leaves provide a self-healing effect when damaged. Easy-to-clean surfaces are likewise



The interior of this delivery room fuses emotion and function. Soft curves, natural colour shades, hidden technical paraphernalia, a view to the sky: a relaxing atmosphere for emotional wellbeing. Furthermore it is a great place for staff to work in, as their working process was closely considered when designing the room.

Floor plan drawing of a delivery room, with limited space optimised for the working process. Round-edged built-in furniture underlines fluent movement through space.





Floor plan showing the layout and scale of the space. Space was limited and all rooms efficiently planned. Staff working processes are optimised, leading to an enjoyable feel-good interior for patients.

The calm atmosphere underlines patience as an essential prenatal virtue for both parents and obstetricians. This is symbolised by the use of smooth river pebbles, carrying Zen associations.

Hand drawing of the reception area which is far from feeling like a sterile hospital. Natural shades, organic forms and discreet lighting create an inviting atmosphere that relaxes patients and makes them feel more than welcome.



hydrophobic, but are smooth and usually include an anti-scratch surface. Often confused with Lotus Effect, easy-to-clean surfaces are therefore commonly used for sanitary objects. Photocatalytic surfaces, in contrast, are hydrophilic: a chemical reaction catalysed by sunlight removes dirt easily from a vertical surface when hit by water.

Integrating phase-change materials (PCMs) in walls or ceilings reduces the need for air conditioning to cool or heat interior spaces. Using light-emitting diodes (LEDs) or simply daylight lowers energy consumption levels for artificial light, and future organic light-emitting diodes (OLEDs) might lead to three-dimensional, bendable light surfaces that can take on different patterns, images, colours and light. Today's electrochromic window glazing can be switched from transparent to translucent: no need for curtains or energy flow. Antibacterial surfaces encourage high hygiene standards, bacteria prevention being crucial.

Interior design that results in sustainability and instant cost cutting is an option that should be fully exploited. A future-oriented approach to the construction of therapeutic environments can only lead to better design. Patient rooms and related spaces have the potential to be strong strategic marketing tools and USPs for the hospitals of tomorrow, conveying the soul and medical quality of the hospital.

Maternity Unit, Elisabeth Hospital, Essen, Germany

The maternity unit of Essen's Elisabeth Hospital (2013), designed by 100% interior for the healthcare service business Contilia Group, offers mothers-to-be an atmosphere of wellbeing and homeliness rather than of alienating sterility. It needed to provide high-quality medical care while incorporating a feel-good environment inspired by nature. The design process for the unit maintained a strict focus on the requirements of medical procedures, while never forgetting the basic aesthetic inspiration of wellness.

A natural approach was adopted, analysing scenery such as river valleys and asking which forms, patterns and colours appear there, and what their impact is. Wellness and the idea of a river meant total relaxation: no stress, but instead a calm, quiet, soothing emotional world for not only expectant mothers but also fathers, other family members and – last but not least – hospital staff. There is a close relationship and reciprocal effect between all individuals involved, and staff work more efficiently when not faced with frightened people. Most importantly, Contilia's maternity unit sets out to provide the highest medical standards, and so the optimum working methods are supported by an ambitious interior.

The calm atmosphere underlines patience as an essential prenatal virtue for both parents and obstetricians. This is symbolised by the use of smooth

river pebbles, carrying Zen associations, as a key design feature that is found in various elements, such as the reception area and decorative lights. Inlaid pebbles as integrated wayfinding devices guide visitors intuitively towards the welcoming reception desk. The colour concept of soft, natural hues of brown, cream and sand dominates, while accents like soft green and bright orange freshen things up. Blue, representing water, together with orange, derives from Contilia's corporate branding.

Furniture was designed from start to finish by 100% interior, beginning with the optimum position of what, where and why and ending up with construction details such as fitting. For instance, cables were hidden from sight behind moveable covers: it was out of the question to hinder the maintenance of equipment simply in order to provide high-quality fittings.

Developing the tight layout was a challenge, as space was limited. The corridors and reception have no access to daylight, while all delivery rooms benefit from a bed with views of the surrounding scenery and sky, as well as a bathtub, comfortable seating for accompanying people, and adequate space to take care of the newborn baby. Hard edges are constantly avoided; instead, organic curves underline natural form finding. For instance the bathtubs are set in



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The generously proportioned patients' lounge area is dominated by organic lines that mimic the language of nature with softly rounded shapes.

A natural and clear colour concept in neutral shades enhances wellbeing, with fresh sunny accents in yellow and orange for mothers-to-be.



curved walls for protection: rounded corners have been shown to help people move around more easily, even in the rush of an emergency. A leafy wallpaper pattern decorates the walls around the bathtubs and also the entrance area, while corresponding accentuated lighting provides an atmosphere of wellness.

The interior design's therapeutic approach leads to a space which manipulates behaviour positively, inspiring mindsets of positive thought and emotional wellbeing.

The combination of bringing nature into the design while at the same time fully catering for the underlying medical process is fundamental to the maternity unit's success and high-ranking birth rate. Expectant mothers are more relaxed, less afraid, and furthermore attracted by a welcoming place, choosing to give birth here instead of somewhere else. Feeling safe and secure, with their loved ones and newborn baby, they find the postnatal recovery process in this healing environment is a happy one.

Rems-Murr Hospital, Winnenden, Germany

The private patient rooms at the newly built Rems-Murr Hospital (2014) were designed by Sylvia Leydecker, who was responsible for prototype rooms for Germany's private health insurance association, PKV. Most of the rooms are designed for general patients, while some are for expectant mothers. Some differentiation was required between these patient groups, but an overall concept regarding design components was successfully developed.

In tandem with uninterrupted views of the surrounding landscape, daylight and sky, a natural atmosphere is elegantly created through hints of grass and wood. Earthy brown hues and organic structured lines dominate the flooring, with curved wave forms adding to the natural feeling. A wave line separates the flooring of each room into a dark hospital-bed area and a light communication area with comfortable seating and table. Classy dark wood contrasts with the soft cream-coloured wallpaper, which is subtly textured with lines mimicking grass.

Note

1. On smart materials, see Sylvia Leydecker, *Nanomaterials in Architecture, Interior Architecture and Design*, Birkhauser Publishers (Basel; Boston, MA; and Berlin), 2008.

The lines are clear, organically structured and uncluttered. The discreet but striking colour and material concept proves relaxing and reassuring.

Youthful and fresh surroundings are provided for mothers-to-be, with patterned dotted wallpaper and accents of orange. Sunny orange acts against depression after giving birth. The changing table is placed in the centre of the room, in front of the cheerfully patterned wall, recognising the newborn baby as an attraction for visitors. A comfortable sofa provides space for visiting friends and family. Modern Italian design is present in the form of a piece of bright yellow transparent sculptural furniture that catches sunrays and creates sunny patterns on the floor. This sort of acrylic furniture is easy to clean, and it can function as a table or stool, depending on what is needed at the time.

There is a perfect view into the landscape from everywhere in these rooms, while mandatory curtains protect against bright sunlight and bring privacy. The best view is reserved for the generously proportioned patients' lounge, which is a great place to meet and enjoy a gorgeous landscape. Curved lines decorate the walls and dominate the seating. Nature is omnipresent and healing seems to be easy in these rooms, dedicated as they are to patients' emotional wellbeing.

Natural Design

Understanding interiors as therapeutic environments that offer economic productivity means far more than just nice, colourful patient rooms. Functionality; hygiene; working processes optimised by stress-reducing layouts; emotional wellbeing offered through natural colours, organic forms and patterns, and views into nature – all of these factors are key and demand a holistic approach to providing feel-good environments, without sacrificing practicality for the sake of attractiveness. Hospital brands require healing environments that have a demonstrable impact on people – patients and staff alike. This is what really works. Naturally. ▽



Transparent acrylic stool or table structures create sunray patterns all around and bring life into the space.

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