

Interior Design Studio Health Building

[The Impact of Color upon the perception of interior spaces]

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Soft, warming, fruity

Excitement, comfort

Loud, obtrusive, superficial, heated

Restlessness, excessive demands, speed

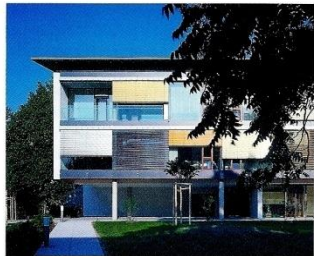
Stabilizing, natural, resonant

Security, tradition, rootedness

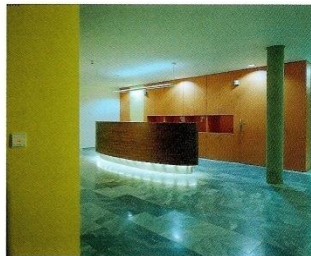
The Practice of Color Design – Therapeutic Facilities

Therapeutic facilities include hospitals, rehabilitation clinics, psychiatric clinics, residential care for people with disabilities nursing homes, etc. .

When designing **therapeutic environments**, we must differentiate between facilities for **short-term** stays, (such as hospitals, rehab clinics) and **long term** stays (such as homes for disabled people, nursing homes, and some psychiatric clinics).



Facade, St. Georg Hospital, Leipzig
Architecture: HPP Laage & Partner, Stuttgart/Leipzig



Admissions



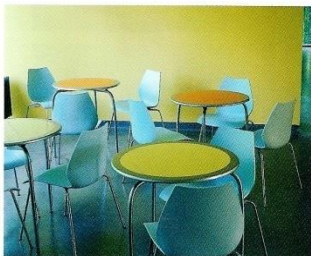
Hallway



Hallway



Ward



Patient's visitor's area

Space type[hospitals]	Sense
Lobby and admissions area	Aspects that convey a sense of warmth and security.
Corridor [fresh blue-green or green]	Could be a viable way to convey a sense of peace and quite.where as in general corridors this can generate a friendly warm atmosphere.
Patient rooms	It should be friendly and comfortable.

The Practice of Color Design – Therapeutic Facilities



Ward, St. Georg Hospital, Leipzig
Architecture: HPP, Stuttgart/Leipzig



Operating theater



OP wing

Space type[hospitals]	Sense
Maternity wards	The over all impression has to be relaxing .
Waiting rooms	Require a soothing environment that also has visual stimuli and interesting accents.
Cafeteria	Should express a restaurant atmosphere that is relaxing , inviting and friendly.
Intensive care wards	These rooms should convey a feeling of peace and quite but should never be monotonous. lower chroma greens with small accents in warm tones in incidental areas would be one possible color design strategy .

The Effect of Color on Human Health

1. Color possess exciting or calming properties.
2. Colors have advancing or receding properties.
3. Colors affect the sense of spacious.
4. Color affect the psychological judgment of time passage.
5. Color affect thermal comfort.
6. Color affect other senses.

Relationship of color to building and spacial function .



Balanced, low-key color schemes are beneficial for spaces where people spend long periods.
Panama Werbeagentur, Stuttgart



Highly saturated color stimulation and intense contrasts are only recommended for spaces where people spend short periods.
Panama Werbeagentur, Stuttgart

Color and Healing



TABLE 1.2 Color & Healing

Health Problem	Healing Color
Difficulty in breathing	Natural light filtered through yellow glass
Migraine headaches	Sunlight filtered through blue glass
Depression	Redlight
Low level of oxygen supply to Brain	Orange
Sore throat	Green Light
Tremors, twitching and Muscle spasms	Green
Anxiety	Purple
Upset stomach, Normal Headachs	Pink color
Nervousness and irritability	Blue light
Boredom, depressive affect & appetite High heart beat, high blood pressure, temperature, Muscle pains	Shades of Blue
Agitated, hypertensive, or anxious individuals	Cool colors [smoke, ash, chrome, white, frost, grey, charcoal, graphite, silver & stone]

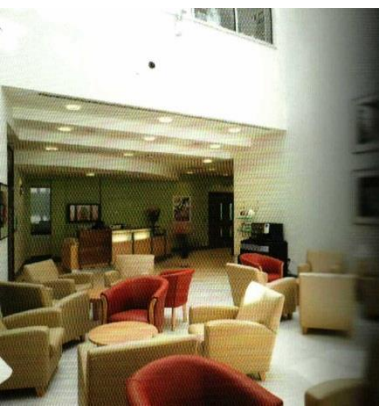
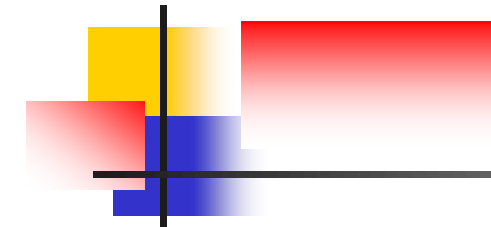
Sources: Color + Design, Ron Reed; 2012.

Functional Color and Design in Healthcare Environments; by Glidden Professional

TABLE 1-1 Human Response to Color

Color	Common Association	Nature Symbol
Red	High energy, passion, excitement raised blood pressure	Earth
Orange	Emotional expression, warmth	Sunset
Yellow	Optimism, clarity, intellect, mood enhancement, excitement, aging	Sun
Green	Healing, nurturing, unconditional love	Growth
Blue	Relaxation, serenity, loyalty, calming, healing	Sky and Ocean
Indigo	Meditation, spirituality	Sunset
Violet	Spirituality, stress reducer, feeling of inner calmness	Violet flower

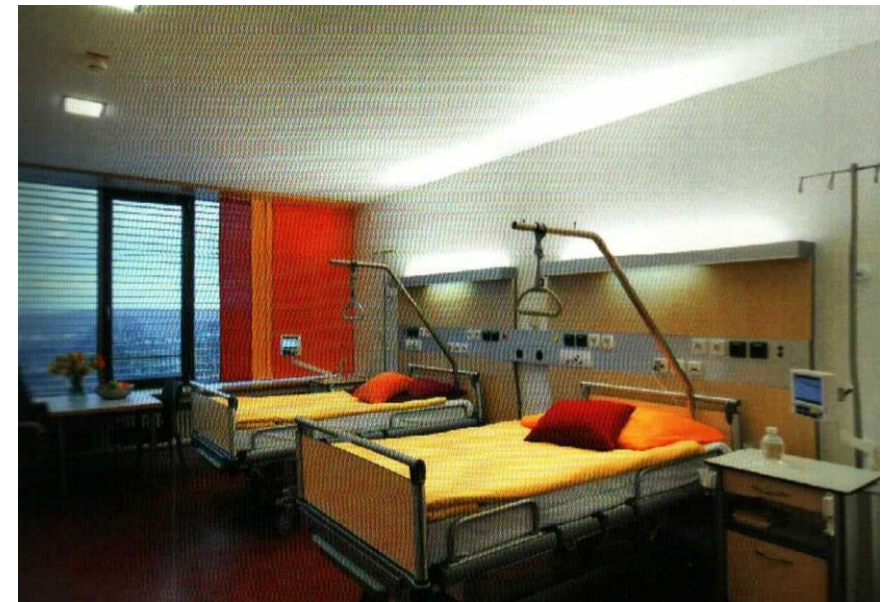
Sources: Friedrich, 1999; Naughton, 2003.



Patient and Family spaces

The following concepts provide some tools for designing the patient room:-

- **Light ceilings.**
- **Natural inspired artwork.**
- **Windows/Scenic views.**
- **Single bed rooms.**
- **Family spaces.**
- **Guest sleeping accommodations.**
- **Desk and locked storage.**
- **Convenient work surfaces for staff.**
- **Linen and supply storage.**



Patient and Family spaces

Most designer use **one base color** in healthcare settings although multi color schemes from **tow colors** to **many colors** are gaining in acceptance.

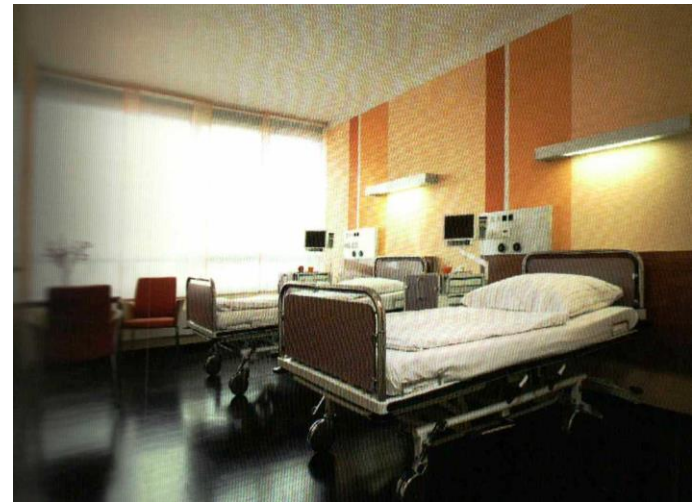
Often **soft warm tones of rose** , and **yellow** or **cooler** tones of **green**, or **blue** are balanced with comfortable neutrals in patient rooms.

The goal is to provide visibility of many colors through **artwork**, **fabrics** and **accessories** in each room so patients have the benefit of a complete spectrum.

However it is best to **refrain** from using **strong color** on the **head wall** as colors may reflect on the patient skin and make diagnosis difficult.



Small design for patient-rooms comparable to ambience of five star hotels.



The Design Considerations of Color [Functional Factors]

Consider functional factors:

- Effect of **lighting** and **materials** on color.
- Ages of people who will use the space.
- Is the space for **patients, staff, or visitors**, and what is the typical **length of time** these people will be exposed to these colors?
- The **nature** and **severity** of the illness.
- The impact of **illness** or **medical** condition on color blindness or perception.





The Effects of Color on the Perception of Space



Interior designers and architects might consider the following regarding the laws of perception and application of color theory :-

- To emphasize the color of a specific room, the **entry** may be painted a **complementary** color.
- Color **modifies architectural form**. It can expand, shorten, widen, lengthen, and give the illusion of lowering or raising a ceiling. Color can change the **appearance of the environment** so markedly that it can influence an individual's subjective **impression** of a space.
- **Bright** colors appear to be **lighter** in weight. Ordered from "heavy" to "light" they are: **red**, blue, **purple**, orange, **green**, yellow.
- **Bright** objects are **overestimated** in size. Yellow appears the largest, followed by white, red, green, blue, black, in descending order.
- A **light object** appears **larger** against a **dark background**. A dark object appears smaller against a light background.
- The **wall opposite a window** should generally be kept **light**, or it will absorb much of the daylight.

(However, in a patient room, this approach might create glare if appropriate window treatment is not provided.)



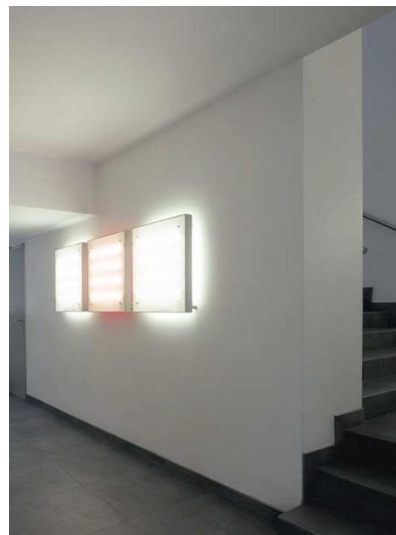
The Effects of Color on the Perception of Space

- A **window wall** and **frame** should be light so as not to **contrast** too much with daylight sky. High contrast can result in **headaches** and **eyestrain**.
- If a **red wall** is placed next to a **yellow** wall, the yellow wall will appear **greener** than it actually is due to the afterimage of the red: cyan. The blue afterimage of the yellow will cause the red to appear more purple.
- **Warm** colors **advance**; **cool** colors **recede**. (Warm colors are long wavelength colors, cool colors are short wavelength.)
- **Light colors** and **small patterns** visually **enlarge** a space. **Dark** colors and **large** patterns make it appear **smaller**.



The Effects of Color on the Perception of Space

- According to Kruithof 's principle, a “**warm**” **light** source is best with **low** levels of **illumination**, and a “cooler” light source is best with high levels of illumination.
- The **absence** of color in a **patient corridor** (white walls, white floor,) can create a **visual hazard** for older persons with reduced visual acuity and even other patients with compromised equilibrium, which could lead to falls. Color can **define spatial** relationships such as the **junctions** between **walls** and **floors** giving visual cues.





The Effects of Color on the Perception of Space



- Way finding: **Signage** is sometimes **overused** in healthcare; When used, it should stand **on its own** and be **noticed** in a quick glance. Its coordination with the interior's palette should be organized early in the process. For instance, "**color brightness** influenced by contrast effects, particularly between **objects** and **background**" [Small **accents of color** may play a role in "attention grabbing" assisting as a way finding cue].



Sensitivity to Light and Color

- Since the cones of the eye are concentrated in the center of the retina the **greatest values** (brightness) and the **warm**, active colors (yellows, reds, and oranges) should be placed in the **center** of attention. **Lower** brightness and **cool**, unsaturated colors (dark green, dark blue, dark brown) should appear on the **periphery** of the visual field. This knowledge is particularly important for the design of graphic signage, posters, and interior design.
- People can be **led** from one room to another by the skillful **arrangement** of successive values and colors.



Practical Applications of Color Psychology

Although the systematic investigation of the effects of color upon human behavior has been long in coming, those studies that do exist are often contradictory and sometimes viewed with skepticism. Despite this, the following observations will be helpful to practitioners

- **Red and yellows**, for example, may be used in settings where **creative activity** is desired and socialization encouraged; **greens and blues** in areas that require **quiet** and extended concentration and high visual acuity .
- **Cool** colors may be appropriate in environments for **agitated, hypertensive, or anxious** individuals; **red** may be appropriate in the **depressed** person's environment. **Highly saturated** colors should be **avoided** with schizophrenics, **red** should be avoided for those afflicted with **epilepsy** and other neurological diseases .



Practical Applications of Color Psychology

- Under **warm** colors, time is **overestimated** (one feels one has been there **longer** than time actually spent), weights seem **heavier**, objects seem **larger**, and rooms appear **smaller**. Under cool colors, time is underestimated (one feels one has been there less time than actually spent), weights seem lighter, objects seem smaller, and rooms appear larger .
Thus, **cool colors** may be used when **monotonous** tasks are performed to make the time seem to **pass more quickly**. Red and orange are commonly used in fast food restaurants, where quick turnover of tables is desired.
- **Warm** colors with **high illumination** encourage increased **alertness** and outward orientation; they are good where **muscular effort** or action is required, such as a **physical therapy** gym. **Cool** colors and **low illumination** encourage less distraction and more opportunity to concentrate on difficult tasks .
Cool colors **neutralize** the negative effects of noise distraction.

