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Flooring

Choosing a health care floor.

As long as the floor is clean and looks good, it's OK for the patient…right? WRONG…this couldn't be further from the truth.

Consider the following: a patient who has under gone health issues and has been bed ridden is now being encouraged to start gentle walking, an exercise generally conducted in hospital wards and corridors. Seemingly a simple task, however, this experience is about to become one of the most uncomfortable in the recovery process.

With the loss of the small muscles and fatty tissues in the feet due to atrophy, the patient starts to feel a growing sensation of discomfort in the lower extremities. The hardness of the floor causes the pain to increase with each step, quickly affecting the patient's desire to continue and the recovery process stops. The flooring and for that matter walls, ceilings, doors and windows are furthest from a patient's mind when undergoing the recovery process, however, these elements have the ability to enhance or limit the patients recovery. It therefore falls on the design team(s) to create holistic health care environments by anticipating the patient's needs.

In the evaluation process for better flooring for health care consider the following areas:

1. Will the floor reduce footfall impact on the feet, legs and lower back during periods of walking and standing?
2. Will it cushion a patient in the event of a fall?
3. Will it suppress and absorb noise from traffic on the floor to create a quiet environment?

Generally these criteria can be found in softer more resilient flooring types like rubber but there is more to choosing flooring for health care.

A patient must feel secure in the use of the floor and allow the patient a full range of access of mobility, safety and comfort which builds confidence in their ability to become mobile and aids in the recovery process.

Creating a perfect health care environment. Today's designers are pushing the boundaries of health care interiors by creating sanctuaries that contribute to the healing process. A growing trend is to create themes within areas of the facility where flooring is incorporated into the theme and designs such as simple geometric shapes to lavish intricate artwork like reflection pools, seascapes, rain forests and mazes are being created. Colour, typically viewed as an esthetic choice is also

known to impact mood, desire, productivity and even hunger, however, growing research is proving the positive effects of colour in the recovery process whereby patients are responding more favorably to earth tones, greens, browns and subtle blues during the recovery process. Hospital specialty departments also have their own colour requirements for example pediatric departments prefer the use of bright clean primary colour's as they induce a cheerful positive response in children. Neutral colours are used in Emergency and Triage departments so as not to change skin tones of the patient during their evaluation process.

When choosing flooring for health care the patient's needs are paramount; however, considering the needs of the facility, the staff, and the unique demands of health care industry need to be addressed. Here are some of the elements that need to be evaluated when selecting flooring for a health care environment:

Safety:

Will the floor be safe under normal daily traffic? Could a patient or visitor slip on the floor? Will the floor be a safe working environment for staff members? To select a safe floor you must evaluate the whole facility and the procedures being performed.

Flooring selection must conform to strict safety standards for mobility including the standards outlined in the ADA (Americans with Disabilities Act). This act was implemented to facilitate better access to buildings for people who have a limiting disability such as wheelchairs or are visually impaired. Over the years this standard has become synonymous to the measurement of flooring safety against slips and falls. The standard requires flooring to meet the coefficient of friction for both flat and ramped applications, 0.5 and 0.7 respectively for dry conditions.

Also to consider, in the unlikely event of a fire, a quality health care floor will increase the evacuation time for both patients and staff by having a high resistance to flames and emitting the least amount of smoke. The lower the smoke and flame points of the flooring, the longer the patients and staff have to evacuate the facility. Resilient flooring must comply with ASTM E-648 for Fire resistance, Critical Radiant Flux and E-662, Smoke Density and in some cases CAN-102.2. Consult local, province and/or federal code to ensure the flooring meets the required code.

Hygiene:

Increased incidents of hospital contracted (Nosocomial) infections have made it necessary for more stringent decontamination procedures. This makes it vital to select flooring that is capable of being decontaminated by the broadest selection of disinfectants. If there are any doubts about the flooring capability then install a small test floor area which will determine if the flooring type is suitable for its intended use. Flooring manufacturers are generally willing to supply small amounts of flooring for this purpose as well as for chemical stain testing.

Infection Control:

Mold such as Aspageliouse, mildew, bacteria and viruses can quickly contaminate an area when given the right conditions for growth. Health care floors must be capable of eliminating any open areas for bacteria to grow. Look for floors that can offer a totally sealed area at the floor and wall intersection such as built in cove base systems, flash cove or integral cove systems. In operating rooms (OR"s) and other critical areas seams must be sealed, a heat welding method is the generally preferred method. In less critical areas floor seams can be cold welded, generally this is a chemical that welds the two (2) seams together. Both methods offer good solutions to prevent bacterial and moisture penetration. When making your flooring selection, inquire about the product's bacterial blocking agents. Flooring such as rubber has natural bacterial suppressers and now many manufacturers are introducing natural antibacterial additives such as silver. And lastly select floors that do not need regular coats of floor finish to protect them from moisture penetration from the surface.

Maintenance:

The right health care floor can save time, labor, supply costs, reduce facility down time and allow the Environmental Services department to redirect resources to other critical areas. Look for floors that require low maintenance procedures. Floors that require stripping and waxing on a regular basis just to retain its physical properties as well as protection against moisture penetration are burdens on the facilities resources. Appropriate flooring for health care must have the capability of being cleaned daily by such methods as auto scrubbed or damp mopped and buffed periodically.

Durability:

A health care facility is one of the most demanding environments for a floor due to the many chemicals and varying traffic requirements and must be durable from a wide selection of criteria.

Select flooring that has a fifteen to twenty year life span, that will not deteriorate from chemicals, disinfectants, ASTM 925 rolling traffic (i.e. beds and gurneys), and have a high resistance to abrasion, ASTM D-3389, light (UV) stability, ASTM 1515 and static load ASTM 970. Secondly, select flooring types that don't require maintenance products such as waxes to maintain the floors integrity. Test different flooring types before making the final selection and check for wear, staining, and resistance to chemical that would be used in the area the floor is intended for.

Comfort:

Health care workers are constantly on the go within the facility, similarly a surgeon can be standing for two to eight hours or more depending on the duration of the

surgery. Health care flooring should offer the highest ergonomic values possible. Consider the use of rubber based products that are favored for their comfort and sound reducing capabilities.

Life Cycle and the Return on Investment (ROI):

In 1998, a lengthy study by Susanne R. Barnes AIA, CFM called "Life-Cycle Benefits of Flooring Surfaces in Healthcare Applications. Our Methodology was all wrong" determined the life-cycle benefits of flooring in health care and has become a must read in helping to decide what type of flooring to use within a health care facility. The research confirmed what many flooring manufacturers had known for some time was that the lowest cost flooring is not the best purchase. Facilities that invest in low-maintenance flooring gain that investment back within a short period of time. Rubber based flooring received the highest ROI followed by ceramic.

In summation this article only touches on the areas to consider in the decision making process so I encourage you to look deeper, ask questions and be informed.

This article was written by Mark Tickle, the Regional Manager for Ontario and Western Canada at American Biltrite. For more information on American Biltrite flooring products for health care in Canada, visit www.american-biltrite.com or consult your Centura representative.