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## Seeing the Light: Daylighting Strategies

The health benefits of natural and “simulated” daylight have been much discussed and debated. However, it is generally agreed upon by both laymen and experts alike that daylight can improve a person’s mood and outlook which, in health care facilities, can contribute to better patient outcomes. Numerous studies also indicate that the presence of daylight can lead to lower rates of employee turnover and absences.

It is much easier to plan a day-lighting strategy for a new building when decisions which optimize daylight such as building orientation and the type and location of façade fenestration and shading elements can be made up front.

There is always a push-pull between the positive benefits of more daylight and the negative impacts of increased glare and heat gain. Passive façade elements such as light shelves/eyebrows allow light to bounce-off them and be reflected towards the ceiling of space where the light, now diffused, is indirectly and evenly diffused across a room without glare.

Engineered glazing with high reflectivity and low-e characteristics reduce ultraviolet radiation penetration into a space, thereby reducing heat gain. Active devices such as semi-opaque interior shades allow diffused daylight to enter while also reducing heat gain. Such shading systems can also be automated to “track the sun” as part of a computerized building management system.

Interior finishes and furnishings also play a key role in any daylight strategy with lighter colors and smoother textures helping to increase the reflection of light deeper into a space.

The reduction of glare and the diffusion of light are also important considerations in the selection and placement of interior (artificial) lighting. Too much glare can agitate and even confuse residents of long term care facilities especially in a dementia setting.

Indirect and semi-indirect light fixtures are designed to “bounce” light off wall and ceiling surfaces, diffusing light just like exterior light shelves do with natural daylight. Suspended and/or baffled light fixtures generally have a more residential look than direct down lighting resulting in a more homelike environment.

Where low ceiling heights prevent the use of indirect suspended fixtures, parabolic style units with a dense open grid lens can provide improved light diffusion.

Lamp selection and energy efficiency are also key factors in any lighting scheme. In the past, designers had to choose between the warmth of incandescent bulbs and the longer life and greater energy efficiency of fluorescent lamps. This is no longer the case with today’s warmer compact fluorescent bulbs and LEDs, providing the best of both worlds.

