The behavior of individuals with Alzheimer’s Disease (AD) is strongly influenced by their living environment. This notion suggests that the less competent an individual is, the more likely the environment accounts for his/her behavior. Improvements to the environment can improve the behavior and emotional well-being of less competent individuals with AD. The term environment includes: physical features, social factors and ambiance. A well managed environment can reduce stress, agitation, incontinence, wandering and calling out. A poorly managed environment, however, can precipitate agitation and contribute to disorientation.

The therapeutic environment screening scale (TESS) uses 12 items to evaluate the appropriateness of the environment for residents with dementing disorders. The TESS was used by Sloan and Matthew as part of a study comparing dementia special care units with traditional nursing home units. The principles used by TESS to evaluate an environment include: eliminating noxious stimuli, enhancing mood and self image, promoting safety, accommodating private and social activities and providing access to the outdoors.

Once an environment is evaluated, a supportive living environment should be implemented to help individuals with AD. In Quebec, the term for a supportive living environment for persons with dementia is the “unité prothétique”, which translates to mean the “prosthetic unit”. The supportive living environment puts in place the necessary prostheses to: compensate for losses, maintain residual functional capacities and prevent or reduce dysfunctional or disruptive behaviors. To provide these “prosthetic supports”, five general principles of environmental design have been proposed. The environment should:

1. Be clear and well structured;
2. Be stable and familiar;
3. Serve as a cue to behavior;
4. Serve as a cue to memory;
5. Support reality orientation.

The following examples illustrate a few ways by which one can accomplish a supportive living environment:

**Visual orientation devices**, such as arrows, pictures and colors, can help residents find their way to their rooms, toilets, eating and activity areas (i.e., using landmark structures such as tables and chairs as cues to places).

**Decoration and location.** Spaces should be located and decorated in a manner that allows patients to concentrate on their tasks (i.e., the eating area should resemble a dining room; areas for social activities and intimate family visits should be separate, distinct and well defined).

**A familiar atmosphere** should be created by using home-like furniture and settings.

**Tools** should be available to support reality orientation (i.e., clocks, calendars, seasonal decorations, activity boards).

**Lighting systems** should be clear and adjustable to different intensities to promote clear perception of visual information.

**Private vs. Community Space.** Space in the resident’s surroundings should allow the resident to choose between socializing with others or having his or her own privacy.

**Safety and security** measures should be implemented to prevent accidents and reduce the risks associated with wandering (i.e., handrails along walls, non-slip floors).

**Personal objects** should be placed in the resident’s room or living space (i.e., bedspread, photos).

**Access to protected areas outdoors** should be provided for activities and leisure.

**Environmental factors.** Staff should observe for environmental factors that promote functional autonomy and factors that provoke dysfunctional behaviors and intervene accordingly (i.e., putting a chair next to the sink for residents with diminished physical capacities; removing mirrors that trigger behavior problems for residents who do not recognize their image; offering one plate at a time on the meal tray for residents who are overwhelmed by too many items).

**Eliminate or reduce potentially noxious stimuli** such as strong odors, overcrowding, loud noise levels (i.e., TVs, radios, telephones or shouting.)

**Assure adequate personal territory** for each resident to reduce overcrowding—especially in showers and toilet areas.

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Ms. Cohen is nurse clinician in psychogeriatrics, Hôpital Ste-Anne, Ste-Anne-de-Bellevue, Quebec.
The Psychosocial Prosthetic Environment

The psychosocial environment constitutes the ambiance created from the daily interactions the resident experiences with others. Individuals the resident may interact with include: fellow residents, nurses and orderlies, members of the multidisciplinary team, cleaning and housekeeping staff, families and visitors. The quality of the interactions between the resident and others will determine the health of this environment. The attitudes, behaviors and beliefs of individuals working in the environment, their ability to work as a team in offering quality care, their tone of voice, their expressions of warmth and kindness and their respect for one another are a few factors to consider when assessing the health of a psychosocial environment.

One major factor in creating a positive psychosocial environment is to maintain a stable staff. Staff stability assures that the staff is familiar with the residents and vice versa.

The Association des hôpitaux du Québec (AHQ) recommends two prerequisites when hiring staff to work in these units. The first requires workers to have theoretical knowledge of the communication difficulties of persons with dementia, as well as practical knowledge of the specialized techniques used to maximize communication with them. The second prerequisite requires workers to have training in providing an individualized approach. The goal of an individualized approach is to promote the maximum functional potential for each resident without triggering behavioral frustration and agitation by expecting the resident to perform beyond his or her capacity.

In keeping with the literature and recommended standards for environmental design, this article will highlight changes to the environment—physical and psychosocial—which were implemented at Ste-Anne’s Hospital in Ste-Anne-de-Bellevue, towards creating a “milieu de vie” in two prosthetic units. The impact of these changes, as experienced by residents, families and staff will be discussed.

Ste-Anne’s Experience

The closed unit concept gained popularity in long-term care facilities in the 1960s due to wandering problems in AD patients. Closed unit facilities appeared to offer the solution to facilities in the 1960s due to wandering problems in AD patients. The closed unit concept gained popularity in long-term care for environmental design, this article will highlight changes to the environment—physical and psychosocial—which were implemented at Ste-Anne’s Hospital in Ste-Anne-de-Bellevue, towards creating a “milieu de vie” in two prosthetic units. The impact of these changes, as experienced by residents, families and staff will be discussed.

The Specialized Environment Team

The specialized environment team was formed in 1995 (along with three other teams: family support, social recreational activities, individual approach) to develop a “milieu de vie” on the prosthetic units. The team members (composed of one nurse and one orderly from each unit) met once a month to discuss aspects of the environment.

The Goal: to create an environment best suited to the needs of residents suffering from an irreversible dementing illness.

General and specific objectives:
- to make wandering and fugue as safe as possible for residents;
- to assure safety standards are met to reduce the risks of falls and accidents;
- to lessen agitation and aggressive behavior in residents by...
reducing stimuli and controlling precipitating factors;
• to reduce anxiety and frustration among residents by offering a calm, stable and familiar environment;
• to provide a representative and less institutional environment that is more home-like and family oriented;
• to promote socialization by planning the use of decor of the areas used for social activities;
• to encourage reminiscence by introducing familiar objects into the personal space of the resident; and
• to arrange areas so that the individual has both private and community spaces.

Achievements to Date: Lessons Learned
The following are a few examples of the many achievements implemented:

1. The attractive family room now offers more intimate space for family gatherings.
2. Families are now bringing familiar objects into the resident’s personal space, thereby encouraging long-term memory use (i.e., a photo album can open topics for conversation; a quilt or spread can help residents locate their bed).
3. A sound system is now used to play relaxing music during the evening hours or dance music at parties.
4. The home-like dining area is providing better opportunities for socializing at mealtime and facilitates self-feeding behaviors.
5. The garden project has provided areas for healthy outdoor walks.

Most changes were made through the process of trial and error. The following anecdotes illustrate this point:

1. Mirrors were removed from the corridor because some residents did not recognize their own image.
2. An attempt was made to camouflage the emergency exit door, which attracted certain residents to continuously bang on the bar of the door. The camouflage (wallpaper containing forest decor) succeeded in stopping the banging, but stimulated other residents to urinate on the wall. The wallpaper has since been taken down and the suggestion was made to place it on the wall behind the toilets.

These interventions confirm the notion that simple modifications to the environment can alter behavior. Ste-Anne’s has learned as much from the failures as the successes, for example:

1. Certain orienting devices proved to be of little benefit to many residents. The red directional line with arrows leading to toilets and showers was placed in the corridor floor on one unit. Instead of helping patients find their way, it altered the depth perception for certain individuals.

2. The four seasons room intended to assist in orienting the resident to seasonal changes was hardly used. Residents preferred to congregate around the nursing station where most of the action takes place. The four seasons room was subsequently converted into another bedroom, freeing up space in the dormitory for an enlarged dining area. A partition of clear plexiglass prevents residents from accessing the dossiers, computer and stationary, but permits full interaction with staff.

Conclusion
Orienting devices and the four seasons room would probably better serve those in the earlier stages of the illness. The challenge is to adapt the features of the environment to the progressive decline in the resident’s functional capacities. This requires an observant team whose members are flexible, creative and willing to learn.

Sharing Ste-Anne’s successes and failures with other geriatric long-term care facilities will hopefully contribute to improved future planning in other prothetic units. A specialized team that makes the time to reflect on environmental issues is an important asset to any “milieu de vie”.

A familiar, highly qualified and stable staff is the key to a quality social environment. Problems in Ste-Anne’s units occur during periods of staff shortages (vacations, illness) when regular staff are replaced. All attempts should be made to assign staff from a pre-selected permanent replacement list during these periods. Most important of all is the “quality” of the staff hired for these units, because it is their skills, training and “heart” that will guide and direct the psychologic and social dynamics of the resident’s world.

References: