



**INSIDE
THIS ISSUE:**

Message from Jay Lazzarin 1

Therapeutic Gardens Help Patients Heal 1

History of Therapeutic Gardens 3

Featured Project: Cancer Centre for the North 4

Featured Plant 5

Questions & Answers 6

Message from Jay Lazzarin

Garden spaces can be much more than an aesthetically pleasing landscape. Garden spaces can be designed for many important functional needs. One of these functions, which until recently, has been overlooked and under appreciated, is **therapeutic gardens**. Therapeutic gardens can be designed to meet physical and psychological needs, as well as serve your spiritual well-being. Therapeutic gardens can be found in settings such as hospitals, nursing homes, cancer treatment centres, and retirement homes, although the most useful place for these gardens may be in your home. There are several characteristics which distinguish therapeutic gardens from most gardens, such as a vigorous plant dominated landscape, and the characteristics outlined in Mark Epstein's article.

Although the goals of various therapeutic gardens may vary, one common goal should be to stimulate as many senses as possible, including memory, hearing, touch, smell, and sometimes taste. This truly extends beyond the traditional garden benefits of visual experience.

THERAPEUTIC GARDENS help patients heal

By: Mark Epstein, ASLA, ESA Adolfsen

In the 20th century, medical advances in treatment, surgery and medicines brought cures where before there had only been care.

Patients were recast from self-healing humans to diseased entities that sought the assistance of scientifically trained nurses and doctors in order to recover. In acute-care hospitals the design emphasis shifted towards accommodating the new technologies and to efficiencies like saving steps for physicians and nurses. Design emphasis moved away from attending to the patients' environment.

There is currently resurgence in the introduction of therapeutic landscapes, evidenced by the creation of therapeutic gardens in many cities, and in public as well as private facilities. Hospital grounds, once considered only landscaped setbacks, are now being utilized to improve patient outcomes, increased positive patient satisfaction surveys and retain staff. Outdoor space can enhance way finding within the building, and several hospital systems use their gardens as a marketing tool.

7 Characteristics

Physical rehabilitation activities can occur in the garden setting whenever the climate permits patients to be outdoors. *(continued on page 2)*



Legacy Emanuel Medical Centre, Oregon Burn Centre



Quiet secluded space for reflection and meditation

.....Help Patients Heal (continued from pg. 1)

Occupational therapists use watering and deadheading flower activities to meet their goals with patients.

Speech pathologists use the garden for cognitive and communication treatments. Recreational therapists find many uses for the gardens including music and other social programming, walking, bird watching and learning adaptive gardening strategies.

The horticultural therapist uses the garden to help patients increase strength and endurance, mobility, focus and memory. The garden can also encourage use of adaptive strategies and development of new leisure interests.

In 1995, the American Horticultural Therapy Association developed the following "characteristics of therapeutic landscapes":

- Features are modified to improve accessibility. Alzheimer's residents enjoy sitting to work with staff to deadhead annuals in containers and are able to work at raised beds. Children also are able to work effectively from wheelchairs into the various raised beds. The grade of the garden allows for challenging activities; spinal cord injury clients with greater upper extremity function are able to reach the top of the healing garden, while frail elders may propel their wheelchairs independently only near the entrance to the garden.
- Edges of garden spaces and special zones of activities within the garden are intensified to direct the attention and energies of the user into the garden.
- A profusion of plants and people/plant interactions is essential. Lush, rich botanical collections with great variety are absolutely critical to therapeutic applications both in horticultural therapy and to those who use the garden independently.
- Therapeutic goals focus on mobility, motor skills, social interaction, cognitive ability and emotional status. Restorative goals promote general well-being, with focus on play, relaxation, socialization, education and creativity.
- Benign and supportive conditions are identifiable. Plants are selected for, among characteristics, their disease and pest resistance, thereby avoiding potentially hazardous chemicals. (continued on pg.3)



Sense of escape

Post-occupancy evaluations of hospital gardens have indicated the high value placed on access to the outdoors by staff, visitors and patients alike.

Among the garden elements most valued are features that represent life and health, such as trees, plants and flowers; and elements that arouse the senses, such as fragrances, the sounds of birds and water, and the feel of sunlight or a gentle breeze.

These elements represent a marked contrast to most hospital interiors, providing a sense of distance or escape, while allowing for reflection and restoration.

Certain factors can limit the benefits of gardens. These include lack of information on a garden's location and accessibility; insensitivity to specific patient mobility needs; intrusive sensory stimuli (such as noise and allergic pollens); lack of accommodation for competing user needs (including smoking areas and the desire for fresh air); and design elements that evoke mixed or ambiguous interpretations. This last is particularly significant in a medical setting, where the fragile emotional state of many users predisposes them to place negative meanings on many things except the most unambiguously positive stimuli. Gardens in medical settings need to be tailored to meet the particular needs of their specific patient populations. This is best done in conjunction with a design team of patients and relatives, staff and administrators.

- In the hospital garden setting, it is important to design and program for the widest possible range of user abilities. Therapeutic gardens commonly stimulate the full range of senses — memory, hearing, touch, smell and sometimes taste — as necessary supplements to the visual experience.
- Therapeutic gardens in the hospital setting should be simple, unified and easily comprehended places.

History of Therapeutic Gardens

By Mark Epstein

Evidence of restorative gardens can be found dating back to the Middle Ages in Europe. Medieval hospices integral to monasteries were the first restorative gardens to appear in the West. Patient's cells bordered an arcaded courtyard that offered sunlight, a lawn, seasonal plants, and a place to sit or walk. In addition, the monasteries were traditionally quiet places suffused with mysticism, adding to the comfort and hope for patients.

The decline of monasticism during the 14th and 15th centuries decreased the significance of the restorative garden, and open landscaped spaces attached to hospitals became simply products of traditional architectural practice. Care of the infirm changed to monastic institutions to civic and ecclesiastical institutions.

The emergence of scientific medicine and Romanticism in the 17th and 18th centuries brought back usable outdoor spaces in hospitals. The thought that infections were spread through the atmosphere produced hospital designs that gave attention to sanitation, fresh air, and ventilation. Romanticism brought about a renewed appreciation for the effects of nature upon the body and soul. The pavilion hospital, with outdoor spaces between pavilion wards, became the predominant form throughout the 19th century.

Changes in the treatment of psychiatric patients and in the design of psychiatric hospitals also occurred around the middle of the 18th century. Treatment evolved from physical punishment to psychological security. Psychiatric institutions were planned with outdoor spaces planted to screen patients from curious spectators. Landscaped views were created to provide comforting experiences. Grounds maintenance, gardening, and farming became part of the patient's therapy.

Restorative gardens took a downturn in the 20th century with the technological advances in

medical science and in building construction. Low-rise pavilion hospitals were replaced with multi-story medical complexes because of advances in high-rise construction, the increased use of elevators within buildings, and increased demand for efficiency. By the 1970s, the typical acute-care hospital was a sealed, air-conditioned edifice that looked more like a modern office building. The only outdoor experience was the walk from the parking lot to the front door. Some of these institutions had gardens and courtyard spaces, but they were seldom considered usable outdoor spaces for the treatment of illness or injury.

The emerging integrated health systems are focused on patient outcomes, exploring new clinical pathways, and reducing costs without sacrificing quality. The reshaping of patient's environments to be more consumer friendly is part of current efforts to promote prevention in health problems. This movement back to patient-oriented attributes is most evident in the design of obstetrics and maternal/child care, where managed care drives people to shorter lengths of stay. The response from providers has often been to create very pleasant, family-centered settings. Therapeutic gardens are becoming an integral part of this holistic concept of patient-centered care.



FEATURED PROJECT

NORTHERN CANCER CENTRE

University Hospital of Northern BC

Prince George, BC

Client: Northern Health

Developer: Plenary Health

Architect: CEI Architecture

Contractors: PCL Westcoast Constructors Ltd.

Landscape Architect: Jay Lazzarin Landscape Architect

Landscape Contractor: L&L Landscape & Design Ltd.

Completed: July 2012

Landscape Value: Approximately \$500,000.00

As a privately funded P3 design-build project, the Northern Cancer Centre provides Northern BC residents with a highly desired cancer treatment centre.

As a LEED Gold project, the landscaping will be sustainable upon completion of the two-year maintenance establishment period. There is no automatic irrigation system and a large percentage of indigenous plant material. In addition, the majority of landscape materials are obtained locally, within 50 miles of Prince George. This includes growing medium for a green roof as well as the ground level landscaping, flagstone retaining walls, cobble rock, boulders and a portion of the plant material.

One of the project goals is to provide ample exterior public space that (i) welcomes and engages visitors, patients and staff; (2) provides protection from sun, wind and rain; (3) offers solitude and privacy for groups of family and friends to sit comfortably and visit; (4) has visual appeal throughout the year and (5) is relatively low-maintenance.

One such unique space is the Therapeutic Garden. Designed as a 'retreat' environment which addresses patient vulnerabilities such as immune suppression, sensitivity to direct sunlight, and limited physical strength, a large number of shade trees, handrails and handicap accessibility has been incorporated into the design. In consultation with local First Nations representatives, a smudging pavilion provides the opportunity for shelter as a traditional gazebo, and more importantly First Nation spiritual healing ceremonies.

In addition, the majority of indigenous plants utilized in the therapeutic garden were selected in consultation with the First Nations user groups to depict specific plants that provide traditional medicines for a variety of ailments. A bronze plaque reflects the contributions of the late Sophie Thomas, a healer and Elder of the Sai'Kuz Nation, who exhibited through her vast knowledge of indigenous plants and the environment, the saving of many lives using these medicinal plants.

A 850m² (9,120ft.²) 'extensive' green roof on the second floor (i) provides an expanded amount of greenspace; (ii) contributes to the stormwater management for the facility; (iii) assists in mitigating urban heat island effect; and (iv) provides two, inviting, semi-private spaces for staff and patients to rest, reflect, and/or enjoy a coffee or lunch break.



Streetscape along Lethbridge Street



Therapeutic Garden



SE Connection to UHNBC



Green Roof c/w sedum, thyme, and ornamental grass groundcover

FEATURED PLANT

Conifers You Need to Know

Here are some known conifers that can be grown as specimens to provide unique characteristics and a focal point in any garden.



Picea engelmanni 'Bush's Lace' (Bush's Lace Spruce)

Zone 3 - A weeping upright form with a central leader. Excellent soft blue foliage. 10.5m/35' tall by 4.5m/15' wide.

Pictured at right.

Picea pungens Iseli 'Fastigiata' (Fastigate Blue Spruce)

Zone 2 - Strong upright fastigiata habit. Excellent narrow growing conifer with steel blue foliage. 12m/40' tall by 4.5m/15' wide.

Pictured at left.

Picea aibes pyramidalis (Pyramidal Norway Spruce)

Zone 3 - Very unique new growth in spring gives a spectacular show. Needles emerge deep red, changing to reddish-brown then green. Conical habit with an open sweeping branch structure. Excellent hedging alternative. 12m/40' tall by 7.5m/25' wide. Pictured at left.

Picea Pungens 'R.H. Montgomery' (Montgomery Blue Spruce)

Zone 2—Upright broad form. Bright silvery-blue needles. Very good for small spaces. 2 - 2.5m/6-8' tall and wide.

Pictured at bottom right.

Picea pungens Iseli 'Foxtail' (Foxtail Blue Spruce)

Zone 2 - Upright conifer with an irregular, open pyramidal habit. Stiff, silver-blue needles range in length, longer at the base and shorter at the tip. The unique needle formation gives this tree its name. 3-4.5m/10-15' tall by 2.5-3m/8-10' wide. Pictured at left.

Picea bicolor 'Howell's Tigertail' (Howell's Tigertail Spruce)

Zone 4 - Unique two-toned needles have green tops with bright silver-blue undersides. Prune to maintain an upright flat-topped mounding shrub habit. 1.5m/5' tall by 2.5m/8' wide. Pictured at bottom left.



The following information and pictures are printed with permission from Specimen Trees Wholesale Nurseries Ltd. from their 'Monthly Feature Sheet'.

PLANTING HINTS

There are a great number of variables in selecting, establishing, and maintaining successful plantscapes. A few of these are as follows:

1. Plant Selection and Suitability to Site

Select plants that are most suitable for your particular site, as wind, water availability, soil conditions, sun vs. shade competition from existing plants all affect the selection and long-term success of your plantscape. What is suitable for your neighbour may not be suitable for your garden. In addition to the physical attributes of your property, there are numerous user and design considerations that should be considered in plant selection.

2. Too Many Plants

Initially, crowding can create a great look for the first few years, but as plants grow, several problems can occur. Over crowding or cramped quarters can force plants under stress to compete for light, water, and space, decreasing their disease resistance and stunting their growth. If you insist on close plantings, be prepared to undertake a “thinning program” to provide ample space for fewer, healthier plants.

3. Planting Schedule

In northern BC our growing season is relatively short - six months at the most, (mid April to mid October). Within this time frame, there are better times to plant than others. The key issues are moisture, air and soil temperatures, and plant acclimatization. Avoid early spring when the soil temperatures can be cool, (particularly North exposed areas), and summer temperatures that climb above 30 degrees Celsius. Do not plant under any more stress than necessary.

Since the majority of trees and shrubs we buy are initially propagated in warmer regions of the province such as the Okanagan and Lower Mainland, I recommend not to plant beyond the end of September. This permits the plants to become better acclimatized to their new setting and avoid an early fall cold spell and possibly mortality.

Accordingly, all things being equal, experience has shown that the best two months for planting trees, shrubs, perennials and ornamental grasses in northern BC is May and June. The second best period is late August and September.



Jay Lazzarin
Landscape Architect

#202 - 1300 1st. Avenue, Prince George, BC V2L 2Y3
(tel.) 1-888-563-6158 www.jl-landarch.com