

# **Smart design** for people living with arthritis

In this issue of JointHealth™ monthly, we look at how smart design choices can make living with arthritis easier, safer, and less painful.

The kinds of challenges faced by people with arthritis differ based on type of disease and level of joint damage, pain, and stiffness. Nonetheless, thoughtful planning is useful for everyone; as we age, convenience and ease of use become more and more valuable.

In fact, home design experts have begun to promote the concept of "universal design", the practice of making a home as safe and accessible as possible for people who face challenges due to aging or disability. These principles can be useful for anyone who is designing or renovating a home, as they can increase home value and eliminate the need for costly retrofitting down the road.

Outside your home, navigating the built environment can be a daily challenge for people with arthritis. Everything from driving a car to waiting in line at the post office can be affected by joint pain and stiffness. Here again, smart design—and some solutions for dealing with built spaces that have not been designed with ease of mobility in mind—can help.

For people who live with arthritis, these solutions can take some of the pain and difficulty out of living with disease. Even something as simple as raising the height of your bed or carrying a foldable stool when you know you will be waiting in a long line-up can make a world of difference.

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# At Home

In nearly every room in the house simple, good design can make life easier every day for people with arthritis. Whether disease affects your hands, back, knees, or other joints, re-thinking the way your home is set up may relieve pain and protect your independence.

Some of these ideas will work best for people who are renovating or designing a new house; others just require re-thinking how your home is set up.

# Around the house

- It is important to plan ahead for flare-ups of disease activity and for aging. Even if you are relatively young and your disease is wellcontrolled, making choices about home design with arthritis and aging in mind makes good sense.
- When designing or searching for a new home, look for houses or apartments with frequently

- used rooms on the main floor. For example, having the master bedroom, kitchen, and living room on the main floor eliminates the need to climb stairs multiple times per day. As an alternative, eliminate stairs entirely with a one-floor house or apartment.
- Softer flooring is usually easier on the feet and knees than hard materials, like tile or concrete.
   Consider carpeting or cork flooring as an alternative to harder materials.
- Lever-style door knobs are much easier on the hands and wrists than round knobs, which require gripping and twisting.
- Curtains on large rings slide easily open and shut, and are often more comfortable to maneuver than blinds with cords.
- Having a telephone on every floor, and even

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in every room, eliminates the need to run to answer a call.

• Install railings on both sides of stairs to make climbing and descending easier and safer.

#### **Bedroom**

- The easiest bed to get out of in the morning is one that is fairly firm, and raised off the floor by 18" – 21".
- Consider buying an alarm clock that you can turn off by pressing a large button or tab, as opposed to one requiring squeezing or turning small buttons with the tip of your thumb and index finger
- "Slip-on" slippers are much easier to put on than full shoe-style slippers.

- pull on and off.
- For women, a one-piece sports-style brassiere may be easier to put on and take off than one with the traditional hook-and-eye closures.
- A long-handled shoe-horn can be very useful when putting on or taking off shoes.
- Installing hooks may give you an easier option for hanging pants and shirts—using hangers can be difficult with stiff or sore fingers.

# Bathroom

- Some newer toilets can be flushed by pressing a large button on the top of the toilet tank or on the wall above the toilet, using your whole hand.
- Wall mounted low-flush style toilets can eliminate the need to get down on hands and knees to clean behind the toilet. As well, they can be mounted slightly higher than conventional toilets which can make it easier to sit down, and get back up.
- Grab-bars beside the toilet and around the tub and shower can be very helpful. For people building a home or doing a renovation who don't need them yet, walls can be reinforced beside the toilet to make bars easier to install if and when they become necessary.
- Lever style faucets for the sink, bath, and shower, automatically mix both hot and cold water and eliminate the need for grabbing and twisting conventional taps.
- Consider adding non-slip strips at the bottom of both bath and shower.

# Dressing

- Knit shirts and sweaters that can slip on over your head eliminate the need to contend with buttons or zippers.
- Pants with an elastic waist may be easier to

# Kitchen

- Think about switching cabinet door and drawer pulls to "cup" or "u-shaped" pulls.
   These allow the use of the whole hand to open drawers and cabinets, as opposed to small knobs that require grabbing with fingers.
   Alternatively, consider open shelving with no doors at all.
- Keeping bowls and plates in large drawers, as opposed to upper cabinets, eliminates the need for reaching upwards which may reduce strain on back and shoulders.
- Regularly-used items like breakfast cereal can be kept right under the counter, as opposed to on the lowest shelf, to minimize bending and crouching.
- When buying a new refrigerator, consider one
  with a bottom-mount freezer. This puts the
  things we are more likely to use every day, like
  fresh foods and beverages, at eye level and
  means less stooping and crouching.
- Dishwasher drawers, as opposed to conventional dishwashers, can be much more easily loaded and lessen the need to bend or crouch.

- Find a place on the counter, if possible, for small appliances like your toaster and mixer to avoid extra lifting.
- Pots and pans should ideally have two handles, and handles should be large enough to slide your whole hand or arms under for lifting.
- Kitchen tools like knives and peelers should have large, softer handles to make them easier to hold.
- Standing on a commercial-grade rubber mat can lessen pressure and strain on feet and knees. People who have to stand for long periods of time, like factory workers and grocery check-out cashiers, have been using these for years.
- Under-cabinet and task lighting focused on the counter can make it easier to see what you are doing without stooping.

# Dining room

 Sled based chairs glide on wood floors or carpets and are easier to pull out and push in than four legged chairs.



- Dining chairs with arms can make it easier to stand up and reduce pressure on the knees.
- Cutlery with a larger, rounded handle can be easier to grip.

# Living room

 Higher, firmer sofas and chairs are easier to get on and off; ideal seat height is 16"—18" for sofas.

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- When purchasing chairs, consider this: it is
   easier to get out of a seating position if you
   can slide your feet a little under the seat and
   push yourself off using the arms which extend
   a bit further than the front of the seat
- Coffee tables should not be lower than seat height.
- Switches for table lamps and floor lamps
   can often be very small and stiff, and require
   difficult pinching and turning. Consider finding
   lamps with switches that you can operate by
   pressing a button with your foot.
- Placement of a television is very important. The optimal position is one that allows the viewer to watch without tilting the head upwards.
   Keeping the television on a low bench provides the optimal positioning.

### Home office

- When seated at a desk, your legs should be at a 90 degree angle to your body, and your thighs should be parallel to the ground.
- A good office chair positioned at the right height relative to the desk surface is very important. Look for a chair with adjustable height and good lower back support.
- For shorter people, a footrest is often a great idea to make sure that feet are able to sit firmly on the ground.
- Computer monitors should be at a height to allow you to look straight ahead, and not up or down.



 A good desk lamp allows for better posture, as it often eliminates the need for stooping. It minimizes eye strain as well.

# Laundry room

- Front-loading washers are often easier to load and unload than top-loaders, as they do not require as much bending, leaning, and lifting.
- Smaller detergent bottles are much easier to handle than the larger, heavier bottles. If your preferred detergent comes in a large-sized bottle, consider asking a family member or friend to decant it into smaller containers.
- Installing a laundry chute is a great way to lessen the need to carry large, heavy laundry baskets up and down stairs in multi-story houses.

# Foyer

- Retrofitting house keys with large plastic ends provides a larger surface area and makes locking and unlocking the doors easier on fingers.
- Thumb-turn style bolts are easier to use than other locking mechanisms that require pinching and twisting with your thumb and forefinger.
- A coat rack or hooks on the wall may be easier and more convenient than fiddling with hangers and closet doors.

# Out in the world

The built environment outside our homes can be difficult to navigate for people with mobility challenges. While we do not have the same level of design control out in the world as we have in our homes, there are still steps each of us can take to more easily and comfortably navigate the outside world.

# In the car

- Automatic vehicles are much easier on the hands, shoulders, hips, and knees than standards.
- Consider the height of your car—high trucks and small sports cars necessitate climbing up or stooping down, which can be difficult.
   Taller people are likely to have difficulty stooping to lower themselves into a low sports car; similarly, shorter people may experience

- difficulty climbing up into a sports utility vehicle. For people of average height, a good option may be a mid-sized "crossover" vehicle which is somewhere between a car and truck in height.
- Steering wheel covers can provide cushioning and an easier surface to grip.

# **Errands**

- Portable fold-up shopping carts can be helpful for shopping. If you drive, consider keeping an extra in your car for unexpected errands.
- When running errands requiring extensive walking or standing in line, planning ahead and wearing low-heeled, rubber soled shoes can minimize stress on feet and knees.
- When doing things that require extra standing or waiting, consider bringing a small, lightweight portable stool. Stools that fold up and are made with canvas work particularly well.

# Restaurants

- When making reservations, you may find it
  helpful to ask about the type of seating in the
  restaurant. Very low or very soft seats may
  be difficult to get in and out of, and bench
  seating is particularly difficult for some people.
  Many restaurants are more than willing and
  able to accommodate special requests from
  people with mobility issues.
- It may be helpful to request a seat on the main floor of a restaurant, to avoid arriving and facing an unexpected set of stairs.

# Movies and theatres

- Aisle seats are often the most comfortable place to sit, as they allow you to stretch your legs and eliminate the need to slide between other people and seats to get in and out.
- If possible, choose a seat near the middle of the theatre; sitting too close to the screen or stage can strain the neck and back.

Arthritis Consumer Experts thanks Céline Pitre of Céline Interiors, in Vancouver, BC, for her expertise and help with this issue.

# **Arthritis Consumer Experts**

# Who we are

Arthritis Consumer Experts (ACE) provides research-based education, advocacy training, advocacy leadership and information to Canadians with arthritis. We help empower people living with all forms of arthritis to take control of their disease and to take action in health care and research decision making. ACE activities are guided by its members and led by people with arthritis, leading medical professionals and the ACE Advisory Board. To learn more about ACE, visit

www.jointhealth.org

# Guiding principles and acknowledgement

## **Guiding Principles**

Health care is a human right. Those in health care, especially those who stand to gain from the ill health of others, have a moral responsibility to examine what they do, its long-term consequences and to ensure that all may benefit. The support of this should be shared by government, citizens, and non-profit and for-profit organizations. This is not only equitable, but is the best means to balance the

influence of any specific constituency and a practical necessity. Any profit from our activities is re-invested in our core programs for Canadians with arthritis.

To completely insulate the agenda, the activities and the judgments of our organization from those of organizations supporting our work, we put forth our abiding principles:

- ACE only requests unrestricted grants from private and public organizations to support its core program.
- ACE employees do not receive equity interest or personal "in-kind" support of any kind from any health-related organization.
- ACE discloses all funding sources in all its activities.
- ACE identifies the source of all materials or documents used.
- ACE develops positions on health policy, products or services in collaboration with arthritis consumers, the academic community and health care providers and government free from concern or constraint of other organizations.
- ACE employees do not engage in any personal social activities with supporters.
- ACE does not promote any "brand", product or program on any of its materials or its web site, or during any of its educational programs or activities.

### Thanks

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### Disclaimer

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