

# Basic Principles of Prevention of Repetitive Motion Issues

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## **Most Common Injuries:**

- Carpal Tunnel Syndrome
- Tennis Elbow
- Bursitis of Shoulder, Hips, and/or Knees
- Tendinitis

A common factor in all injuries is inflammation of the tissue. Synovial tissue in carpal tunnel syndrome, muscle tissue in tennis elbow, tissue surrounding muscles and tendons as they pass over bony prominence in bursitis, and tendon sheaths or tendons in tendinitis.

## **Cause of Inflammation:**

- Overuse
- Repeated pressure on a site
- Strenuous repeated motions
- Continuous forceful gripping
- Acute trauma

## **Basic Principles of Prevention of Repetitive Motion Injury:**

- Work load should be close to the body
- Use best ergonomic position possible
- Match the tool to the job
- Decrease resistance
- Spread the load over multiple joints or larger joints
- Pace the activity

## **HOW TO APPLY PREVENTION PRINCIPLES TO GARDENING!!**

### **STRETCH - STRETCH - STRETCH - STRETCH**

Remember, just as in exercising, you need to prepare your joints and muscles for activity. Any stretching or warming-up exercise program will work. If you experience stiffness in the morning, take a warm shower or bath to loosen up before heading out to the garden.

### **Work Load:**

If you cannot get down to the workload, bring the workload UP to you. When standing, do not over reach and maintain an upright posture. The longer the handle the more force it takes to use and lift that garden tool. To decrease this effect, lighten the weight of the tool, use only sharp tools, and match the tool to the job.

### **Ergonomic Position:**

Position yourself so the muscles can be used at their maximum efficiency. When standing, **don't lock your joints**. Also, sitting in a supported squat or at 90 degrees is hard on the joints and difficult to get up from. The straighter your elbow and the farther away it is from the body, the less efficient your position. You can increase efficiency by selecting the right tool, decreasing resistance, and using multiple joints. Place thumb and index finger together, making a circle. This is your most efficient grip size.

### **Match the Tool:**

One-purpose tools are generally the best, when you cannot easily carry around several tools. Limit yourself to two or three tools.

### **Decrease Resistance:**

Keep tools sharp. Small work surface, i.e., pointed hoe, narrow rake or shovel allows tool to move with less resistance. Use the most efficient grip size and nonslip surface to reduce force of grip required. Power, if used safely, is wonderful. Variety of watering systems eliminates the need to drag a hose. Plant in a peat moss mixture instead of soil.

### **Spread the Load:**

You are spreading the load by putting an extra handle on a shovel, extending a hand tool onto the forearm, turning a sprayer from a hand-held carry to a backpack, or using a two-wheel garden cart instead of a wheel barrel.

### **Pace the Activity:**

The risk of injury is greater when you forget to stop and take breaks. Take your time; gardening is not a race. By working slowly, sitting back, and reflecting on the beauty that surrounds you allows your muscles time to recover. Break a heavy load up by stopping every 30 minutes and doing a light activity. Being organized reduces the number of trips for needed supplies.

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