



FROM THE DESK OF THE DDSN MEDICAL CONSULTANT

Fractures

- Broken bones hurt to move
- Know how it happened
 - Keep it still
 - Get it checked

Fracture Prevention

- Safe environment
- Lift and move with care
- Calcium & Vitamin D
 - Exercise

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Fractures

In our care for our consumers we try to keep them safe and reduce the number of injuries they have. Sometimes an injury may be a minor bruise, sprain, or skin tear, but one more serious type of injury that we need to know about is a fracture.

What is a fracture?

A fracture is a break in a bone. When the bone is broken it is sore, it may have swelling around it and the muscles cannot move as they usually do. There is bleeding in the area – sometimes just a little - sometimes a lot, if a big bone like the thighbone (femur) is broken. Sometimes the bone may stay in place. Sometimes the ends shift and cause more damage and pain. This can cause serious problems. For example spinal fractures can lead to swelling and pressure on the spinal cord causing paralysis (short-term or permanent).

How can we recognize a fracture?

We need to think of the possibility of a fracture if we know a person has had an accident or injury. There are times that we do not know about the injury event but have to consider a possible fracture from the changes in the way the person acts.

If a bone is broken it is sore. The person will not be moving it. Swelling may be present and there may be the colors of a bruise after a few days. The most important changes will be pain and loss of function. Our non-verbal consumers may only indicate this by a change in behavior. They may keep the part of their body that is sore very still or they may be very restless and agitated. Sometimes the pattern will help us find the part of the body that is hurt. For instance a person that stops walking may have an injury or

something wrong with their feet, legs, or hips.

When we evaluate a person for withdrawal, lack of movement or for agitation we need to consider an injury or possible fracture. We also need to look for other causes of changes in behavior such as abdominal pain, hidden and possibly serious infections, disturbances of glucose levels, drug effects, arthritis, other causes of pain, headache, interpersonal upsets or psychiatric problems.



What do we do if a person may have a fracture?

If we think a person has a broken bone we need to avoid moving that part of the body, and support it in a splint. Do not allow a person to put weight on an area that may have a fracture. If the broken bone is in the leg put the person on a stretcher or in a wheelchair. If the arm is injured you may use a sling. Keeping the limb still is most important to reduce pain and to avoid further complications before medical intervention. Some times we do need to give pain relief as well. You should seek medical assessment and care promptly.

It is important, where possible, to know how the injury happened. This will assist with planning treatment and can help us prevent the injury happening again. Unexplained injury of a consumer may be due to abuse by a person in the consumer's life. If you think that abuse may have caused an injury please follow your agency's rules for reporting it so that it can be investigated



HOW CAN WE PREVENT FRACTURES?

Avoiding accidents will reduce the number of fractures our consumers have.

The environment needs to be safe - wipe up any liquids spilled on the floor.

We need to provide appropriate supervision – risk is part of life but we may need to guide our consumers away from predictable injuries.

For consumers who travel by wheelchair please watch their feet as you go through doors to avoid catching on the doorway (going through backwards is safest).

Most importantly, when you are lifting or transferring persons who need assistance please think of safety for both staff and consumer. Lift with two persons or use a mechanical lift. Ask your therapists for advice.

It usually takes a powerful force to break a bone. However, sometimes a person has thinning of their bones and this may cause bones to break easily. The most common disorder causing weaker bones is osteoporosis.

What is osteoporosis?

The bones of our skeleton hold our body up, protect our vital organs, and provide the levers for our muscles to move our body. The strength of the skeleton mainly comes from the calcium framework inside each bone. The bones are always being remodeled throughout life with the structure being removed and being rebuilt constantly. This means that the bones can adjust for growth and heal fractures. During childhood and adolescence there is more bone built than removed. As young adults we have the strongest bones with the most solid calcium framework. After this age the bone remodeling tends to reduce the bone mass. If too much bone calcium is removed and not rebuilt then osteoporosis occurs.

The rebuilding of bone needs enough calcium in the body. Vitamin D is also needed to help calcium move from the food into the bones.

Bones are rebuilt best where they are carrying weight or have some muscles acting on them. Smoking or excessive alcohol drinking will reduce the bone calcium and several drugs that our consumers often use can reduce bone rebuilding (anti-convulsants and steroids are two examples).

HOW CAN WE PREVENT BONE THINNING?

We can help prevent osteoporosis by managing all the factors that lead to reduced bone calcium. Our consumers need to have a diet that gives them enough calcium from adequate dairy products (milk, yogurt, cheese), broccoli, kale, salmon, and calcium fortified orange juice. We need about 400 IU per day (but not in excess) of vitamin D. It

comes from our diet and is also made in the skin when it is exposed to sunlight. Ten minutes a day is all that is needed (avoid sunburn). Sometimes we need pills to give enough calcium and vitamin D.



Weight bearing and active exercise are good for all persons at all ages. Everyone needs exercise for bone health. The younger person needs to build bone well and the older person needs to keep rebuilding as much as possible. Ask your therapist or recreation program for help.

Women who are past the age of having periods (are post-menopausal) have lower levels of the estrogen hormones that are important for bone rebuilding. This group of consumers may be given hormone replacement therapy (HRT) or other specialized hormone pills. This is management aims to maintain the bone density and reduce fractures. Research is still being done to show the best way to do this.

HOW DO WE TREAT OSTEOPOROSIS IF IT IS PRESENT?

Our consumers can develop osteoporosis even when we try to prevent it. X-rays show thinning of the bone but a DEXA bone density scan will give a score for how much the bone calcium is reduced. The test takes about 5-10 minutes and is painless but does need the person to be still for a while. Some rapid techniques are becoming available.

We treat osteoporosis by using calcium, Vitamin D, HRT, exercise, and can also use specialized medications. Bisphosphonates (e.g., Fosamax) help the bone rebuilding process and are useful for persons with thinning of their bones. Unfortunately they are difficult to give to many of our consumers as they must be given with a glass of water first thing in the morning and then the person must stay upright for 30 minutes before they have anything else by mouth. Persons with reflux should not generally be using these pills. Manufacturers are developing changes in dosage and methods of giving these medications that may help. Another specific medication that increases bone density is calcitonin (Miacalcin). It can be given by injection or more easily by nasal spray with appropriate care.

SUMMARY

Fractures are a serious problem. We need to protect our consumers by providing a safe environment and by careful lifting and moving techniques. We need to prevent the thinning of bone that makes fractures more likely. This needs adequate exercise, a good diet and medical follow-up.