

Hammer Toes

This is a painful deformity of one or more of the middle three toes. It can run in families, is associated with arthritic changes, and often comes on after an injury. It is due to loss of strength of one of the small muscles in the foot, called the lumbrical muscles that are part of the intrinsic muscles. Initially the affected toes remain mobile, so joints still move, but in the chronic form, joints become fixed in the deformed position. Treatment is much easier, and more effective, if undertaken before joints become fixed. The other group of intrinsic muscles are the interosseous muscles, which spread fingers out or bring them together.

The hand has an equivalent group of lumbrical muscles, with almost identical function. Their action is most easily understood by using the hand. To familiarise yourself with these functions, follow the instructions below.

Place your hand palm down on a smooth flat surface with all fingers together. If the fingers alternately separate and come back together, those are actions of the 2 interosseus muscle groups. Similar groups in the feet do the same for the toes but their effect is not seen much in people who wear shoes most of their life, leading to significant muscle weakness and loss of action. The very broad and separated toes of people who only have bare feet demonstrate ongoing action of the interosseous muscles.

The lumbricals and their action also is easily seen in the hand, when the flat palm is raised at the knuckles, with straight fingers, into a tent shape. The lumbrical muscles in the foot do the same thing. To feel that in the feet, stand up straight behind a chair with one hand loosely on the back of the chair. If you lean forward slightly, so no weight need be taken through that hand, action of the lumbrical muscles is felt when the pads of the toes press down to prevent you losing balance forwards - balance is an important part of their action.

Typically, after an injury, there is inhibition of action of muscles that act on the injured joint. If those muscles do not have a suitable exercise regime, they remain weak. In the foot, injury to the toes or ball of the foot, or pain from degenerative change, has that effect on the lumbrical muscles. That leads to overactivity of the long muscles in the calf, which curl up the toes in an attempt to replicate the lost action of the lumbricals. If lumbrical action is not restored using suitable exercises, pressure of the over-bent toe joint on the upper, and the end of the toe on the sole, of the shoe, lead to callous formation at those points. At that stage the deformity is mobile but if untreated, those toes will progress to the fixed deformity.

Splints and alterations to a shoe can treat the symptoms, but exercises are needed to overcome the cause. Physiotherapists can provide these exercises.

Thank you to the reader who asked for this column.

Henry Rischbieth

Physiotherapist in Echunga and Meadows.