

Osteoarthritis and Bracing

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Arthritis is an inflammatory condition that affects the body's joints. Of the many forms of arthritis, osteoarthritis (OA) is the most prevalent, affecting nearly 50 million Americans¹. The knee is the joint most commonly affected by symptomatic, or painful, osteoarthritis. According to a recent study by the Centers for Disease Control and Prevention nearly one in two people, and two out of three obese adults, will develop symptomatic knee osteoarthritis in their lifetime². It is also estimated that 16% of adults in the United States currently suffer from knee OA¹. Osteoarthritis accounts for 55% of all arthritis-related hospitalizations, and knee and hip joint replacement procedures account for 35% of all arthritis-related hospital procedures¹. In 2006, approximately \$18 billion were spent on hospital costs alone associated with knee replacements².

Osteoarthritis pain is oftentimes debilitating in its effects on the body. OA of the knee is one of the five leading causes of disability in the United States¹. While the risk of developing most types of arthritis increases with age and may also be linked to certain genetic factors, there are measures that may be taken to lower the risk of developing painful osteoarthritis. Maintaining a healthy weight reduces the load placed on the joints, regular exercise, and proper treatment for joint injuries may help to delay or prevent the development of OA.

Currently there are many treatment options available for painful osteoarthritis. Anti-inflammatory and analgesic medications are often the first line of treatment. Patient education, physical therapy, and weight loss are frequently part of the treatment plan as well. Ultimately, definitive treatment is often in the form of total joint replacement. Another treatment option that may help patients with knee OA to prevent or delay joint replacement surgery is the use of functional bracing.

Functional knee braces made for treatment of osteoarthritis, often called unloader braces, provides a mechanical means to reduce pain and increase joint stability. Unloader knee braces are designed to stabilize the knee joint, shift forces to the unaffected compartments of the knee, and restore function. This type of knee brace is typically custom-fabricated and fitted to the patient by a qualified healthcare professional.



Unloader braces provide four major benefits to patients with knee OA. Pain relief is achieved by reducing stress on the affected compartment of the knee and restoring a more normal joint motion. Unloader braces are also designed to improve joint stability. This improved stability often gives patients an increased sense of security and a lower risk of falls. Many unloader braces also redistribute the weight load from the affected compartment to the unaffected compartment. This helps to restore a more normal joint alignment. The fourth benefit is an increased level of functioning. By adding stability and reducing pain, many patients are able to be more active and accomplish functional daily activities more easily.

Unloader bracing is not appropriate for all patients, however. Braces provide the most benefit to patients with mild to moderate osteoarthritis. In cases where the degenerative changes are more severe, or there is a significant deformity to the joint, bracing is likely not appropriate or beneficial. Additionally, bracing is most effective in patients whose OA affects only one compartment of the knee. In patients where more than one compartment is affected there is no healthy compartment to share the load, and these patients are not likely to benefit from bracing.

It is also important to remember that bracing is not a cure for osteoarthritis. Instead it is a treatment option for patients who do not wish to undergo surgery, or wish to postpone surgery; for patients who are not candidates for surgery because of age or other medical issues; or for patients whose symptoms do not respond to other nonsurgical treatments. Additionally, bracing may not relieve all symptoms of OA. Used in conjunction with other treatments such as medication and physical therapy, however, bracing can prove to be a useful adjunct.

References

1. Centers for Disease Control and Prevention. (2008). Arthritis types-overview. Retrieved October 31, 2008, from <http://www.cdc.gov/arthritis/arthritis/osteoarthritis.htm>
2. Centers for Disease Control and Prevention. (2008). Lifetime Risk of Symptomatic Knee osteoarthritis. Retrieved October 31, 2008, from <http://www.cdc.gov/arthritis/misc/osteoarthritis.htm>