Knee Braces for Osteoarthritis

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BME 281 Second Presentation November 21, 2012 <Kelsey_kunkel@my.uri.edu>

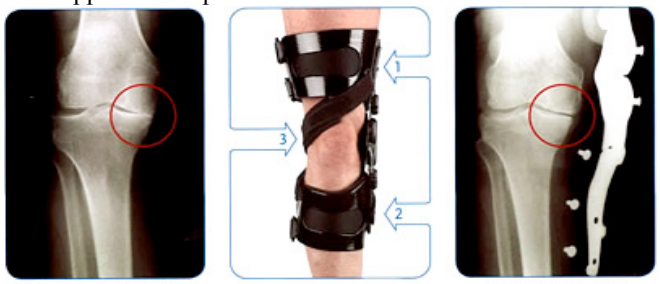
***Abstract*—When the cartilage in your knees begins to lessen, the joints and bones in your knees begin to rub together creating friction. This is called Osteoarthritis. To help combat the pain people wear knee braces, which help give short-term relief**

I. Introduction

WHEN you get older, or happen to play a lot of sports, the joint fluid in your knee, called synovial fluid, and the cartilage that surrounds the patella, femur and tibia starts to rub together. When this happens, osteoarthritis begins to occur. When Osteoarthritis does occur, one of the treatments you can use is by wearing a knee brace. When you are diagnosed with this disease you are limited to your movement in your daily activities. With the knee brace, it gives short-term relief from the pain.

II. Methods

The technology used in Knee braces for osteoarthritis uses the integration how walking can affect the knees. In order to create the most efficient knee brace, engineers can design the brace by using biomechanics, or the application of the human body as a mechanical movement. The current technology present today gives short-term relief from osteoarthritis, a heat moldable frame, and other features that can give comfort and support to the patient's knees



Knee OA without bracing (bone-on-bone contact | The 3-Point Leverage System | Knee OA with Bracing (space created between bones)

The brace applies pressure to the problem area, lifting the femur to stop the friction between the tibia and itself, thus giving pain relief to the patient.

III. Discussion

The advantages of the knee braces for osteoarthritis is that the technology has become advanced within the past ten years since Dr. Robert McDavid began to integrate his new technology back in 1996. The Ossur OASys gives on the spot pain relief, as well as a heat moldable frame to conform to t anyone's knee shape. Additionally the system is non corrosive, thus it is able to wear it in all weather conditions. Different companies share the same basic design, however they all have different purposes. Some could only be used during non-contact sports, or has certain dial hinges for stability. The disadvantages and limitations for the medical device is that the knee braces could cost up to $900. Additionally, the knee braces can only help a limited number of people based on the person's body type, and it cannot treat the osteoarthritis directly. Lastly, the futures of the knee braces are not dramatic changes. However, lowering the cost, manufacturing the knee braces to fit every body type and knee braces that can help with long-term pain relief from osteoarthritis are definitely dramatic changes that could occur.

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