

Coventus: Double Drill Guide for Use in Arthroscopic Orthopedic Surgery (2015-030)

Published date: June 3, 2016

Technology description

Coventus is an orthopedic drill guide accessory that allows surgeons to quickly attach and secure two bone tunnel drill guides to one unit. The American Orthopedic Society for Sports Medicine estimates five million arthroscopic surgeries take place worldwide each year and will continue to increase. The US arthroscopic equipment market accounts for 53 percent of the global market and is estimated at \$636 million. With the rise in arthroscopic procedures, surgeons need efficient solutions to reduce surgical time, costs, and number of revision procedures. Many orthopedic procedures require the surgeon to drill holes for graft fixation. Current solutions to assist the placement of drill tunnels involve single drill guides that are often difficult to use, provide limited accuracy for tunnel placement, and are limited to drilling one tunnel at a time. Clemson University Researchers have developed Coventus, which allows surgeons to manipulate each drill guide independently during arthroscopic tissue fixation in desirable planes and orientations to achieve precise tunnel angles and separation distances.

Technical Summary

Clemson University Researchers have developed an orthopedic drill guide accessory device that allows for the adjoining and manipulation of two bone tunnel drill guides. The drill guide is adaptable to different surgical procedures, patient populations, and can be accessorized to any OEM drill guide kit. To date, no commercially available drill guide device can facilitate drilling two bone tunnels at the same time using one integrated device platform. This device can support two drill guides simultaneously and allows for a wide range of adjustable motion both laterally and rotationally, so a surgeon can accurately place multiple suture tunnels based on the patient's individual anatomy.

[View printable PDF version of this technology](#)

Application area

Arthroscopic knee surgeries (ACL and PCL repair) Prototype

Advantages

- Allows surgeon to efficiently manipulate drill guides to meet precise angles and distances, improving

placement and accuracy of bone tunnels

- Allows surgeon to drill two bone tunnels at once, minimizing surgical time
- Stabilizes both drill guides and maintains alignment, providing additional stability and decreasing the chance for reduced tissue to shift or malalignment

Institution

[Clemson University](#)

Inventors

[Steven Singleton](#)

MD

[Brian Keim](#)

Athletic trainer, worked w/Dr. Steven Singleton

[Michael Stokes](#)

TERMINATED 5/1/16

Bioengineering

[Alan Marionneaux](#)

Graduate (PhD) Student

Dept of Bioengineering

[Jeremy Mercuri](#)

Assistant Professor

Bioengineering

[George Seignious](#)

Undergrad c/o 2014 now M.Eng Student

Bioengineering

[Nicholas Freeman](#)

Undergraduate Student

Bioengineering

[Adam Marrocco](#)

Undergraduate Student

Bioengineering

[Allison Santillo](#)

GRADUATED Undergrad c/o 2014 (Now J&J employee)

Bioengineering

联系我们



叶先生

电话：021-65679356

手机：13414935137

邮箱：yeyingsheng@zf-ym.com