Funding for microprocessor-controlled prosthetic knees approved in the UK

December 6, 2016

The U.K. government has approved funding for a National Health Service policy that allows amputees with above-knee limb loss access to microprocessor-controlled prosthetic knees.

According to a press release, the policy regulated a provision by the National Health Service (NHS) for microprocessor-controlled prosthetic knees (MPKs), which include complex sensor systems designed to help amputees walk with efficient gait and to reduce the risk of falls.

A Burn and a Banjo

O&P News, December 2016

When he was 18 years old, Jean-Baptiste Reinhardt, better known as “Django,” critically injured his ring and pinky fingers in a fire; 18 months later, he...

Overcoming Challenges in Treatment of Patients With Obesity, Diabetes

O&P News, December 2016

Rates of obesity and diabetes are increasing in health care. The CDC reported an obesity prevalence of 37.9% among U.S. adults in 2014, and reported nearly one of every...

A Great War Led to Great Prosthetic Strides

TOP STORY

Funding for microprocessor-controlled prosthetic knees approved in the UK

December 6, 2016

The U.K. government has approved funding for a National Health Service policy that allows amputees with above-knee limb loss access to microprocessor-controlled prosthetic knees.

According to a press release, the policy regulated a provision by the National Health Service (NHS) for microprocessor-controlled prosthetic knees (MPKs), which include complex sensor systems designed to help amputees walk with efficient gait and to reduce the risk of falls.

A Burn and a Banjo

O&P News, December 2016

When he was 18 years old, Jean-Baptiste Reinhardt, better known as “Django,” critically injured his ring and pinky fingers in a fire; 18 months later, he...

Overcoming Challenges in Treatment of Patients With Obesity, Diabetes

O&P News, December 2016

Rates of obesity and diabetes are increasing in health care. The CDC reported an obesity prevalence of 37.9% among U.S. adults in 2014, and reported nearly one of every...

A Great War Led to Great Prosthetic Strides
World War I was one of the largest battles in history. Mostly fought in Europe between 1914 and 1918, it claimed more than 17 million lives. Another 20 million were…

Funding for microprocessor-controlled prosthetic knees approved in the UK

The U.K. government has approved funding for a National Health Service policy that allows amputees with above-knee limb loss access to…

A Burn and a Banjo

When he was 18 years old, Jean-Baptiste Reinhardt, better known as “Django,” critically injured his ring and pinky fingers in a fire; 18…

Overcoming Challenges in Treatment of Patients With Obesity, Diabetes

Rates of obesity and diabetes are increasing in health care. The CDC reported an obesity prevalence of 37.9% among U.S. adults in 2014, and reported…

A Great War Led to Great Prosthetic Strides

World War I was one of the largest battles in history. Mostly fought in Europe between 1914 and 1918, it claimed more than 17 million lives. Another…
Amputees Gather in San Diego
O&P News, December 2016
More than 70 lower limb amputees from around the world gathered at a clinic organized by Össur and the Challenged Athletes Foundation, according to a…

MEETING NEWS
OPAF Hosts First Amputee Tennis Tournament in US
O&P News, December 2016
The Orthotic and Prosthetic Activities Foundation held the first amputee tennis tournament in the United States as a part of its First Clinics…

5 QUESTIONS WITH O&P NEWS
A Conversation With Mark Muller, MS, CPO, FAAOP
O&P News, December 2016
In this issue, O&P News poses five questions to Mark Muller, MS, CPO, FAAOP. Muller is the chair of the Department of Orthotics and Prosthetics…

MARKETING WITH MANSFIELD
Why Buy-ins Are Worthwhile
O&P News, December 2016
Elizabeth Mansfield
The term “buy-in” is an idiom meaning “to agree with; to accept an idea as worthwhile.” Have your employees bought in to your…

MEETING NEWS
Össur Hosts its First O&P Women's Leadership Conference
O&P News, December 2016
Recently Össur hosted its first Women’s Leadership Conference. The conference brought in more than 30 female O&P professionals from 11…

Freedom Innovations names new member to COPA board of directors
November 28, 2016
Freedom Innovations has announced its vice chairman and chief innovation officer, Maynard Carkhuff, has been elected to the California Orthotic and…

http://www.healio.com/orthotics-prosthetics/prosthetics
<table>
<thead>
<tr>
<th>HEALTH CARE UPDATES</th>
<th>Simple recreational activities may be as effective as virtual reality games for stroke rehab</th>
</tr>
</thead>
<tbody>
<tr>
<td>Findings indicate need for reform in EU medical device regulation</td>
<td>Stem cell therapy may hold potential for patients with severe burns</td>
</tr>
</tbody>
</table>
A Burn and a Banjo
An early musician changed modern technology.

O&P News, December 2016

When he was 18 years old, Jean-Baptiste Reinhardt, better known as “Django,” critically injured his ring and pinky fingers in a fire; 18 months later, he picked up a guitar.

Past and present

Django was a Manouche Gypsy born near Liberchies, Belgium in 1910. He was the son of a traveling musician and learned to play the violin at age 9 years before teaching himself to play the banjo guitar.

According to “More with less: A comparative kinematical analysis of Django Reinhardt’s adaptations to hand injury,” published in Prosthetics and Orthotics International, he had “exceptional natural talent and a promising future as a professional musician.”

But in October 1928, his life changed. The ember from a discarded cigarette ignited Django’s home. He grabbed a blanket to shield himself and managed to escape, but sustained burns to the left side of his body and his left hand. His wounds became infected, according to the study, and while the burns eventually healed, the injuries led to severe contractures of his left ring and pinky fingers.

Despite his new challenge, Django relearned the guitar and went on to achieve international fame. His novel technique, combined with influences from jazz and classical composers, defined a new genre of music known as “Gypsy Jazz,” which has influenced generations of musicians.

Now, researchers are trying to find out how. “The purpose behind our study was to learn how Django did it,” Michael Wininger, PhD, assistant professor of Rehabilitation Sciences at the University of Hartford and coauthor of the study, told O&P News. “We are trying to get upper limb prostheses to perform, especially on a limited number of detectable degrees of freedom. How did Django get such a great sound with such little anatomy?”

Stringing together the pieces

Wininger and David J. Williams, MD, MBChB, FRCA, DipDHM, consultant anesthetist at the Welsh Centre for Burns, Morriston Hospital, Swansea; associate professor in the College of Medicine at Swansea University; and coauthor of the study, found Django initially stayed in hospital for 28 days, in which any areas
of superficial partial thickness injury would have healed.

In this era, debridement was often performed to remove necrotic tissue and reduce the risk of infection. In Django’s case, it was performed nearly 3 months after the original injury, indicating these areas had sustained deep, full thickness burns.

As a result of conservative management, Django was left with a mass of scar tissue on the dorsum of his left hand, measuring 30 mm by 20 mm, covering the tendons of his ring and pinky fingers.

The researchers reviewed archive film footage and used novel motion analysis software to compare movements of Django’s hand with that of six modern-day guitarists of the same genre. They used blueprints of Django’s guitars to find the fret and fingerboard widths at each point on the necks of his instruments. Corresponding measurements from the right hand were taken to confirm the measurements. Software was used to correct for the effects of perspective and scale, but it could not fully compensate for distortion because of parallax or the focal length of the original camera lenses.

The data were compared with anthropometric reference data and used in combination with 3-D modelling software and texture map rendering of scar tissue to create a virtual model for visualization.

**Technique for art**

Wininger and Williams concluded Django devised a highly efficient system of three-note chord shapes to play his instrument, each encompassed inversions of several different chords.

He developed techniques including the use of his left thumb to fret the lower one or two strings, where two strings are fretted simultaneously by placing the tip of one finger midway between both strings and employing the contracted ring and little fingers on the upper strings, where they acted like a single finger.
<table>
<thead>
<tr>
<th>HEALTH CARE UPDATES</th>
<th>Stem cell therapy may hold potential for patients with severe burns</th>
<th>Simple recreational activities may be as effective as virtual reality games for stroke rehab</th>
</tr>
</thead>
<tbody>
<tr>
<td>Findings indicate need for reform in EU medical device regulation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>STEM CELL THERAPY AND BURNS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stem cell therapy may hold potential for patients with severe burns</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Simple recreational activities may be as effective as virtual reality games for stroke rehab</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HEALTH CARE UPDATES</td>
<td>Stem cell therapy may hold potential for patients with severe burns</td>
<td>Simple recreational activities may be as effective as virtual reality games for stroke rehab</td>
</tr>
<tr>
<td>VIDEO: O&amp;P practitioners should talk more about accreditation</td>
<td>VIDEO: Allied health professionals come together to discuss pediatric O&amp;P</td>
<td>VIDEO: O&amp;P professions seeing the impact of 3-D printing</td>
</tr>
<tr>
<td>VIDEO: O&amp;P practitioners should talk more about accreditation</td>
<td>VIDEO: Allied health professionals come together to discuss pediatric O&amp;P</td>
<td>VIDEO: O&amp;P professions seeing the impact of 3-D printing</td>
</tr>
</tbody>
</table>