



## O&P News, Fall 2016

### COVER STORY

# Fashion and Function for O&P Patients

Today's trends focus on what makes patients unique and happy without sacrificing comfort or mobility.

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For many O&P patients, a new prosthesis or orthosis is about more than function — it is now an expression of their personality as well. With advances in manufacturing and materials, new companies are popping up to fill a niche for fashion-forward patients who want to walk with confidence.

### *Prostheses on display*

As amputees spend more time in the public eye, so do their prostheses. Starting with Oscar Pistorius, known as the “Blade Runner,” and continuing to *Dancing With the Stars* contestants Amy Purdy and Noah Galloway, it is becoming more common to see people with limb loss presented as capable and fashion-forward. Galloway was named the “Ultimate *Men’s Health Guy*” in 2014 and has since continued a career as a model. In 2014, the world was introduced to the first “bionic pop star,” Viktoria Modesta, who performed an elaborate dance in the spike leg from Alt.Limb Company. In 2014, Alex Minsky, a retired U.S. Marine corporal, was the first amputee to walk in New York Fashion Week wearing a UNYQ cover. In 2015, Rebekah Marine also walked the runway at New York Fashion Week wearing the i-limb quantum prosthesis.

It may be due to this continued positive exposure that prosthetic fashion is evolving. In the past, amputees have expressed a desire to blend in, but now many are asking for ways to

stand out, according to **Brooke Artesi, CPO/LPO**, owner of Sunshine Prosthetics and Orthotics and an amputee for 22 years.

“People are going a little outside the box,” **Artesi** told *O&P News*. “They are not just asking for that conventional, flesh-tone shape. They are going after the more bionic look — the chrome, the shiny, the custom-painted [prosthesis].”



*Image: Hiliary Benjamin; courtesy of Geauga Rehabilitation Engineering and Myomo.*

“The younger generation likes the high-tech look,” **Ronnie N. Graves, BOCPO, LPO, CO, CTP**, owner of Prosthetics Research Specialists, said.

Designers agreed the flesh-tone look is “out,” and patients prefer a carbon look “or not covering the leg at all,” **Artesi** added. “That is kind of a bigger thing now. They want it to look real, to be the same shape [as a natural limb].”

“Limb-deficient people seem more eager to show their prosthesis off rather than hide it,” **Elaine Uellendahl, CP**, owner of New Touch Prosthetics, agreed. “Prostheses are more frequently made with bright colors, laminated in fun fabrics and sometimes are even bedazzled.”

Patients learn about design options a few different ways — one is by seeing them when they visit their prosthetist. **Artesi** said when she wears an outfit that shows her prosthesis, patients often will ask if she can get something similar for them. They also see designs on a technician who works for **Artesi**.

### *More choices, more input*

Patients also learn about new options online, particularly through the sharing of information on social media. This has fueled particular interest in 3-D printed prostheses and covers. **Eythor Bender**, chief executive officer (CEO) of UNYQ, said the internet has created a venue for amputees to learn about their options.



*Eythor Bender*

“Amputees in the past have not had much of a choice,” he said. “Now they can browse our website and find things and go to a prosthetist and pick out colors, pick out different types of surfaces and strengths. Amputees are the CEOs of their own health.”

Many of these amputees are looking to design-focused companies to show off their prostheses in a visually appealing way.

“First and foremost, we are a design studio,” **Ryan Palibroda** said of Alleles Design Studio Ltd., the company he cofounded with **McCauley Wanner**. Palibroda is technology director and Wanner is art director of the company.

“We have been able to design fashion to change the way people look at disabilities in a way that relates to what is happening in the world,” Wanner said. “As opposed to talking about [a prosthetic cover] as a medical product or something that people need to have, it has changed into something people want to have so they can dress themselves up the way they would with the rest of their body.”

Alleles releases new collections every spring and fall, with a new collection expected in October. The company’s first few collections were broad and meant to appeal to a variety of amputees — the company offered covers that were feminine, sporty, edgy, simplistic and more.

“We just wanted to make sure we had something that would appeal to as many people as possible,” Wanner said. “But now that [Alleles has] been around for a while, we have the opportunity to make bigger statements for our collections and make them more concrete.”

In addition, UNYQ and Alleles both offer customized covers. Palibroda and Wanner described a process similar to that of working with a tattoo artist. They work with customers by sending images back and forth and sharing ideas until they begin to refine a specific image.

“A lot of it is just trying to understand, working with people, what they like and what they do not like,” Palibroda said. “I always find with custom [covers] that we end up with something neither one of us pictured.”

The fashion-first mindset extends to the Alleles working relationship with prosthetists. Although Alleles clients can conduct and send in their own measurements, about half of clients visit their prosthetist to do so.

“Working with a prosthetist is like [working with] a fine tailor,” Palibroda said. “They can adjust things perfectly for their clients.”

The UNYQ and Alleles studios both have seen trends change with time. “After all, this is fashion,” Bender said. He said black and chrome covers are now the most popular styles.



Ryan  
Palibroda

“The ladies, they like something that is flashy and colorful. The guys tend to go toward something that is more [of a] superhero type of look,” he said. “That is the beauty of it. It is about choice. We get surprised all the time with all kinds of wishes. It is fun for me.”



McCauley  
Wanner

Wanner said Alleles’s most popular covers change frequently, and many styles see an uptick after being posted on Instagram or other social media sites. The current favorites include the Deco cover – a 1940s art deco-style design with large flowers over a lacey pattern – and Wings – a black and industrial style cover with a bit of a science-fiction feel.


### *Orthotic fashion*

However, most sources agreed orthotic fashion has a long way to go. While some options exist, patients are more limited in this area than they are with prostheses. Patients have color options for orthoses and companies offer covers for their carbon AFOs. The greatest promise for orthotic fashion seems to be in the scoliosis market, sources said.

“There are tons of options to dress [an orthosis] up or make it blend,” **Artesi** said.


But fashion options for orthoses are not just for teens; older clients are now embracing this trend.


“I had an older lady today who wanted a purple brace,” she said.




## SURVEY QUESTION

**What do you think is the most exciting trend in O&P fashion and style?**

 “Patients seem genuinely excited to have the option of socket appearance, and come up with some creative designs to express themselves.”  
– Joel J. Kempfer, CP, FAAOP

 “Years ago, most prosthetic devices were fabricated to replicate a sound side. Now, as a standard, most devices get fabricated with more character and art. This allows the wearer to truly customize a device. As well, braces are now fabricated with significantly more designs and color options. This goes beyond the basic transfer patterns.”  
– Jonathan M. Naft, CPO, LPO

 “The process to individualize prosthetic and orthotic devices has been out there for a number of years. What is an increasing trend is individuals are getting bolder and having more fun with this. Some put in their favorite sports, university, hobbies, bold colors and mixtures of art. No longer is there an attempt to hide or blend the item into being hidden. For years, we have used the little boy or girl Velcro to appease children into accepting braces. I find the expressionism refreshing in the individual’s acceptance and making the best of their challenge. I believe this trend aids greatly with initial acceptance and later with expression of personality.”  
– Rick Fleetwood, MPA

### *Affordability*

When asked what their prosthetic patients would want to have if money were no object, every prosthetist interviewed for this *Cover Story* said they would want multiple prostheses.

“We change clothes for different scenarios, and a prosthesis is more complex than this,” Uellendahl said. “The value it may provide in one situation may change in another circumstance.”

Graves and **Artesi** both said lower limb patients would appreciate different legs to allow them to wear different footwear and accessories.

The major obstacle to multiple prostheses is the financial barrier. While multiple limbs are not a possibility for most amputees, they are allowed some flexibility through cosmetic covers. A 2015 study published in *Prosthetics and Orthotics International* found reimbursement for cosmetic covers varied according to a variety of factors. Female amputees were more likely to have covers covered, and Medicare was more likely to reimburse pull-up covers than other types of covers.

For amputees who pay out-of-pocket, ready-to-wear options are significantly more affordable than custom covers. While UNYQ does not list its prices on its website, the Alleles ready-to-wear covers fall under the price range of \$300 CAD to \$500 CAD. Customized covers start at \$950 CAD.

Overall trends also are influenced by price and reimbursement.

“We [at Aqualeg] are working in many countries. I have to say what makes a difference is the price level of reimbursement,” **Frederic Rauch**, president of Aqualeg, told *O&P News*. “I think price [affects] development.”

Rauch said he has seen the rise and fall of technology based on which countries offer insurance coverage. European countries are more likely to have a high level of reimbursement, so there is more room for fashion trends to develop.

According to Bender, the growing availability of technologies, such as 3-D printing, is helping and will continue to help make prosthetic fashion more affordable.

“The development is exponential. Prices are coming down. Things are becoming faster to make,” he said. “I think the trend is going to be that printers become faster, prices become even more affordable, speed of delivery — all will improve exponentially.”

Bender said clinics of the future will offer accessories and covers as a standard and will allow patients choose from different materials and designs.

“My projection is within the next 5 [years] to 10 years, this is the way we will make prosthetic devices,” he said.

### *Emotional impact*

With a goal for Alleles to “bridge fashion and prosthetics,” Wanner and Palibroda take fashion seriously as an element of patient care.

“The thing that frustrates me about patient care, and medical design in general, [is that] people do not think outside the clinic,” Palibroda said. “They do not understand that people have lives outside of the clinic. [Culture] is missing so much in medical design.”

Wanner added patients may feel comfortable with a standard device while inside the clinic, but feel differently once they leave and have to deal with scrutiny from others.

“If you cannot relate [the design of a prosthesis] to how people feel outside the clinic in the world, around strangers around their friends, around their family; [that] is not good,” she said.

Fashion is an important aspect of patient care, for a few different reasons. One is compliance.

“I have always said that a patient [who] likes the way their leg looks can overlook a little discomfort,” Graves said. “If you have a patient start picking apart the way [the prosthesis] looks upon delivery, you are going to have a patient who is in every week for an adjustment.”



*Ronnie N.  
Graves*

He added, “Anything that is created that allows a person to return to [a] normal lifestyle is a great thing.”

Artesi agreed.

“I think they are more compliant,” she said of patients who choose to incorporate fashion into their device. “It is like they are more part of the overall process of making it, so they are more apt to wear it. Especially teenage girls with scoliosis braces. [You] give them an option and it is not just a stark white brace, they are involved.”



*Brooke Artesi*

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This leads to another impact of fashion: It can help wearers resume their lifestyle and feel “normal.”

Uellendahl sees this impact on partial hand amputees who are able to wear jewelry again with a specially designed prosthesis.

“Wearing rings is common for non-amputees, and the inability to wear a wedding ring in particular has an emotional impact,” she said.

“We hear a lot [that] this increases [patients’] confidence,” Bender said of UNYQ’s fashion options. “We are trying to reduce the stigma around prosthetic devices [and] around scoliosis as well.”

He said patients have told him while they used to be approached by people who would ask uncomfortable questions about and how they became an amputee, now they are approached by people who want to know where they got their cool prosthesis.

“It inspires discussions that are completely different than what amputees are used to,” he said.

“I think this is true for schoolchildren too,” Uellendahl said. “By having a theme of a favorite popular animated character or having a prosthesis with a fun color, I think it invites the other kids to engage. When they think the prosthesis is cool, so will the person wearing it.”

– by *Amanda Alexander*

#### **Reference:**

Highsmith JM, et al. *Prosthet Orthot Int*. 2016;doi:10.1177/0309364564024.

**Disclosures:** Artesi, Bender, Graves, Palibroda, Rauch, Uellendahl and Wanner report no relevant financial disclosures.

*Editor’s Note:* This story includes a small representative sample of individual companies and products. *O&P News* does not intend to promote individual companies or their products, nor to achieve an industry-wide consensus on the issue. Companies contacted in developing this story were randomly selected.

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