

LINERS AND SUSPENSION FOR CHALLENGING LIMBS

WillowWood



AGENDA

- Choosing between Off-The-Shelf (OTS) and Custom
- Alpha DESIGN[®] Liner
 - Clinical Criteria
 - Design Options
- Shape Capture Methods
 - Alpha DESIGN App
 - OMEGA[®]
- Suspension using LimbLogic[®]
 - Mechanical and Electronic




CHOOSING THE ALPHA[®] LINER

WillowWood

CONSIDERATIONS

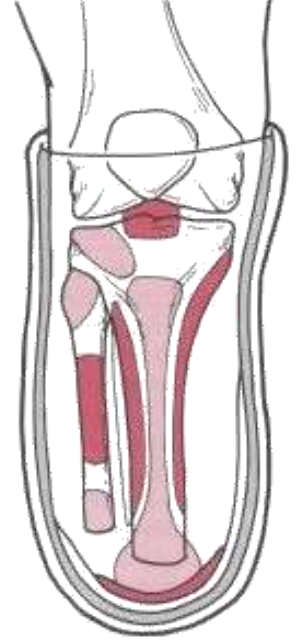
- Limb shape and length
- Overall health
- Lifestyle
- Activities
- Opinion/preference



**A collaboration
between you
and your
patient**

CONSIDERATIONS

- Skin health
 - Perspiration, scars, uneven contours
- Padding and protection
 - How much and where?
- How will the prosthesis be held on?
 - Strap, suction, mechanical pin, elevated vacuum



ADJUSTING THE LINER



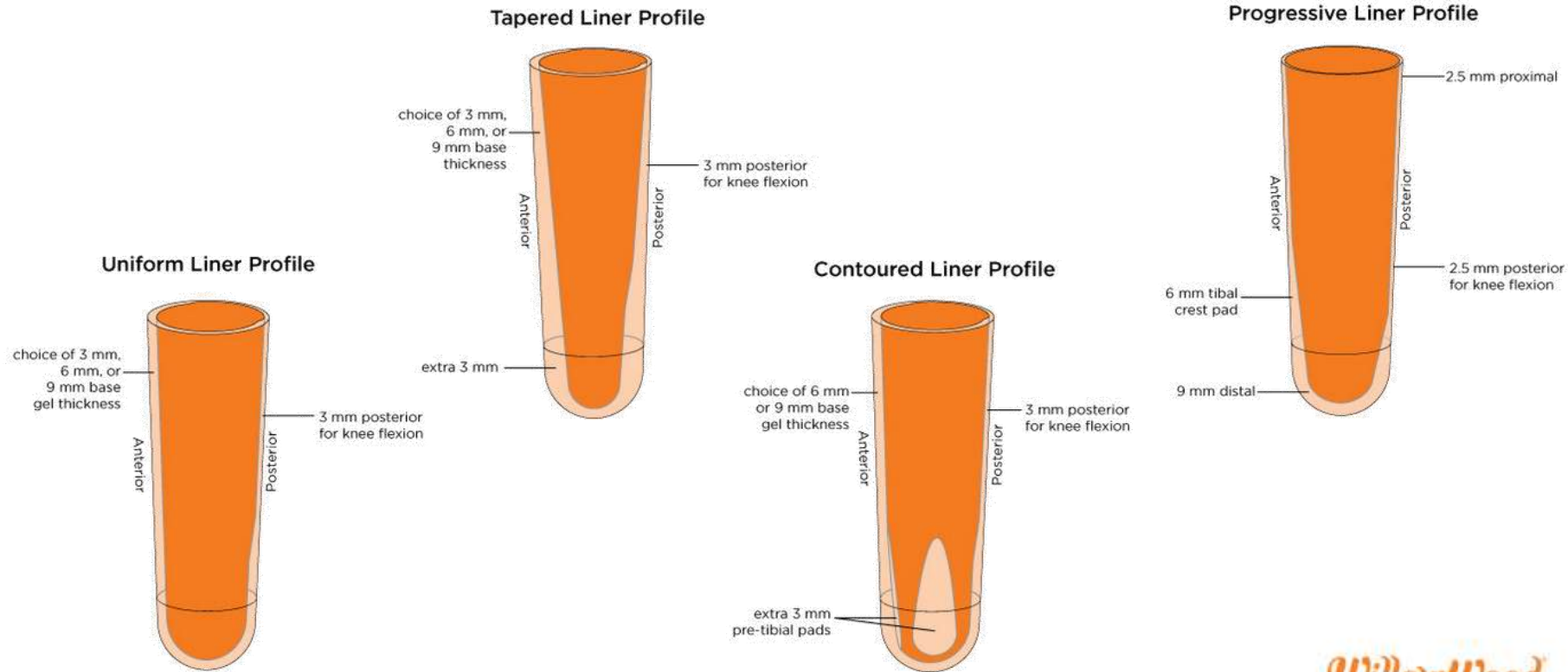
Alpha Volume
Management Pads

Alpha Socket Pads



Alpha Gel Cups

PROFILES





ALPHA DESIGN LINER INTRODUCTION

WillowWood

INTRODUCTION



- Since its introduction in 1996, the Alpha product family has expanded many times to provide the latest in liner technology

WillowWood

WHAT IS AN ALPHA DESIGN LINER?

- A custom liner created by a prosthetist, where the pattern, placement, and thickness of material are specific to an individual end-user requirement

WHY USE AN ALPHA DESIGN LINER?

- For accommodation of TT and TF residual limb shapes, sizes, and tissue integrity that fall outside the scope of an off-the-shelf (OTS) liner with or without gel cup/pad adjustment



CLINICAL CRITERIA

WillowWood

CLINICAL CRITERIA/INDICATIONS

- If your patient presents with...

NON-UNIFORM CONTOURS



DEEP INVAGINATIONS



CONGENITAL



SHORT RESIDUAL LIMBS



LOCAL AND/OR MAJOR GRAFT SITES





DESIGN OPTIONS

WillowWood

CONSIDERATIONS

- Thickness minimum and maximums
 - Up to 25 mm thick
 - As thin as 3 mm for fabric covered and 4 mm for fabric free
- Interface materials & distribution pattern
- Fabrics
- Socket design
- Suspension method

INTERFACE MATERIAL

Alpha Classic[®] Gel



- Skin-friendly Thermoplastic Elastomer (TPE)
- Soft, flexible, durable
- Ideal for patients who need comfort and support

Alpha Hybrid[®] Gel



- TPE with Kevlar[®] additive
- Skin-friendly
- Increased durability

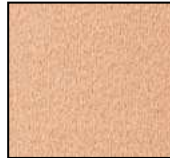
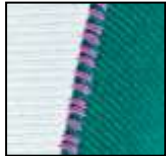
Alpha Duo[®]



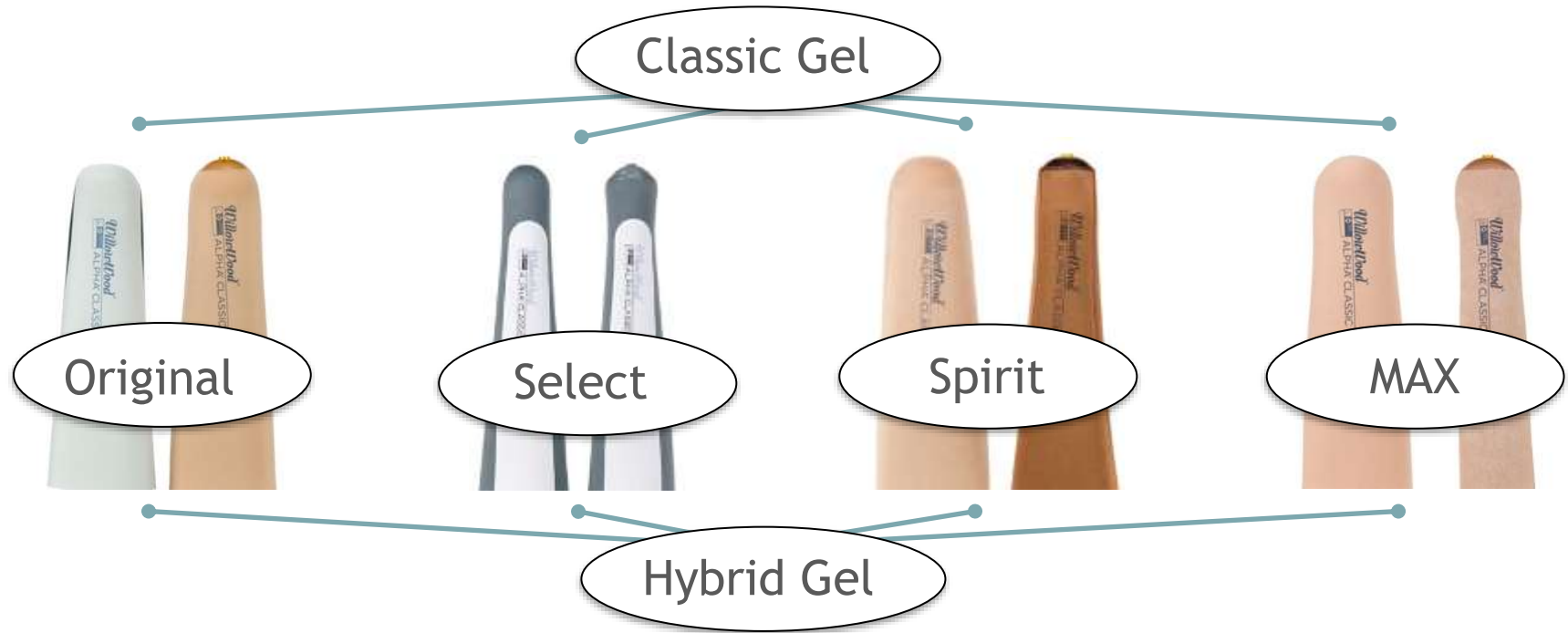
- Inner layer: Classic Gel
- Outer layer: Alpha Silicone[®]
- Fabric-free

FABRICS (FOR CLASSIC AND HYBRID LINERS)

Original	Spirit	MAX	Select
<ul style="list-style-type: none">• Durable fabric that extends the life of the liner• Smooth texture allows for ease in donning prosthetic socket	<ul style="list-style-type: none">• Flexible unbroken loop fabric allows easy donning and doffing• Ideal for geriatric amputees	<ul style="list-style-type: none">• One-way stretch fabric minimizes pistoning yet maintains durability• Fabric allows for increased range of knee motion	<ul style="list-style-type: none">• Allows for easy knee flexion• One-way stretch fabric controls pistoning without a distal matrix• Allows circumferential stretch, yet maintains liner elongation within specified limits



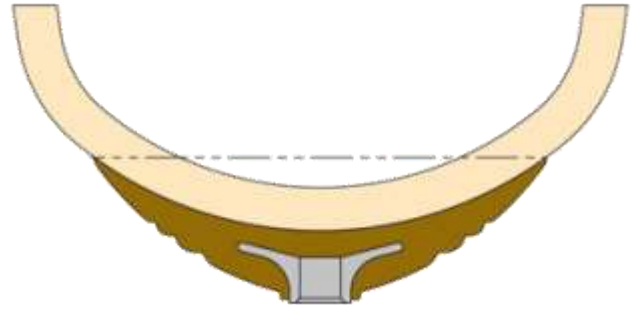
CLASSIC AND HYBRID GEL CAN BE PAIRED WITH ANY FABRIC



WillowWood

UMBRELLAS

- Pediatric/UE
 - 1 1/8" to 1 5/8"
- Small through Extra Large/Large Plus
 - 1 5/8" to 4 1/2"
- Will be based on distal end circumference



COMFORT CUFF FOR TRANSFEMORAL

- Fabric cuff that can be added to the interior of TF liners
- Can be reflected down over the socket brim to protect the gel from wear and tear
- Additional fee applies
- Not available with Select Fabric



WillowWood

ALPHA DESIGN LINER WITH DUO® TECHNOLOGY

Alpha Silicone

- Fabric-free satin finish



Now Available

Alpha Classic Gel

- 4 mm minimum liner thickness
- Use with One Gel Sock

WillowWood



SHAPE CAPTURE

For a DESIGN Liner

WillowWood

SHAPE CAPTURE FOR DESIGN LINER

OMEGA



- Structure Sensor



- OMEGA Scanner 3D



- Internal Tracing

Hand Casting



OPTIONS

OMEGA System



OMEGA Scanner 3D

- Scan the limb



Tracing Hardware

- Digitize the inside of a cast

Structure Sensor



- Use with an iPad and the Alpha DESIGN App or OMEGA

OBTAINING AN ALPHA DESIGN LINER

- Direct to WillowWood
 - Via e-file
 - Negative cast
- To WillowWood billed through Cascade
 - Via e-file
 - Negative cast



ALPHA DESIGN APP

WillowWood

ALPHA DESIGN APP

- Streamlined ordering process improves turnaround times
- Scan Transtibial and Transfemoral residual limbs
- Take photos of residual limbs
- Add clinical notes to scans
- Complete order form
- Submit scans, photos, clinical notes and order form



WillowWood[®]

Alpha DESIGN[®] App

WillowWood

OMEGA 3D SCANNER

- Ideal for capturing deep scars and invaginations
- Stopping and resuming the scanning process is not a problem
- Projected structured light pattern
- Minimal reflective targets
- Accurate measurement



WillowWood



WillowWood

CASTING



PATIENT LIMB EXAMPLE



CAST OR SCAN





MORE WAYS

WillowWood

CAN ALSO SUBMIT CAST OR FILE (AOP, STL, OBJ)

- Online order form available at www.willowwoodco.com

Alpha DESIGN BK Liner Form

Please complete this form for each cast.

When casting for BK, please cast patient at least 4" to 5" above the knee.

Do NOT cast over a liner. Credit will not be given for inaccurate information provided.

If sending a cast, please ship item to WillowWood at:
15441 Scioto Darby Road
Mt. Sterling, OH 43143 USA

Alpha DESIGN® BK Liner Order Form

Today's Date: *

WillowWood Account Number: *

P.O. Number: *

Practitioner Name: *
First: Last:

Phone: *

WillowWood

WHEN WILLOWWOOD RECEIVES YOUR ORDER

- Design technicians review the order
 - If you did not create the design yourself via OMEGA, technicians will create the design based on your notes
 - Technician will contact you if you requested a phone call or a webinar
- Liner gets put into production

CREATING AN ALPHA DESIGN LINER

- Send electronic file using:
 - Alpha DESIGN App
 - OMEGA
- Send negative plaster cast with order form
 - Bony landmarks
 - Anterior orientation as reference



PATIENT EXAMPLES

WillowWood

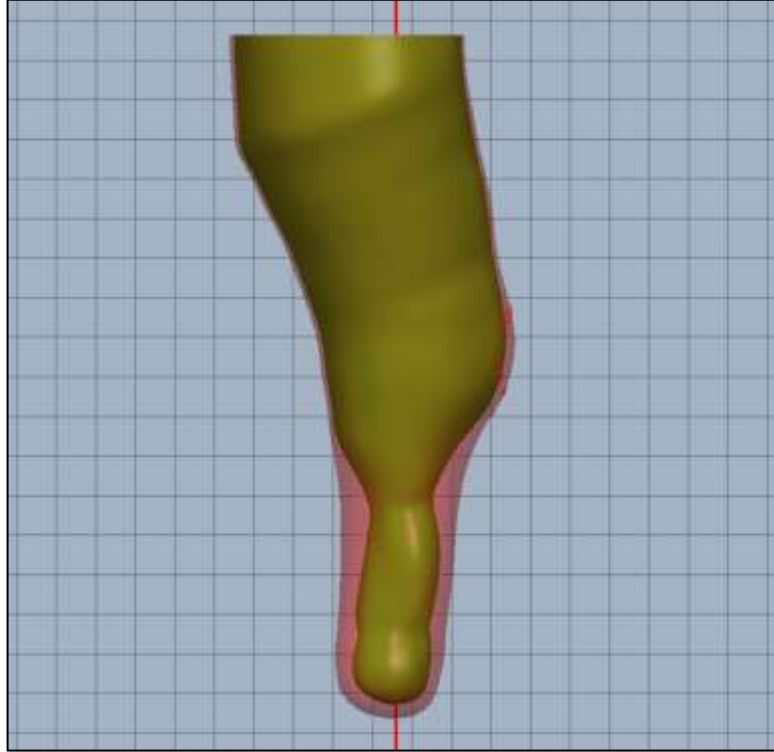
PATIENT EXAMPLE #1: EVALUATION AND ASSESSMENT

- Pediatric born with umbilical cord wrapped around limb



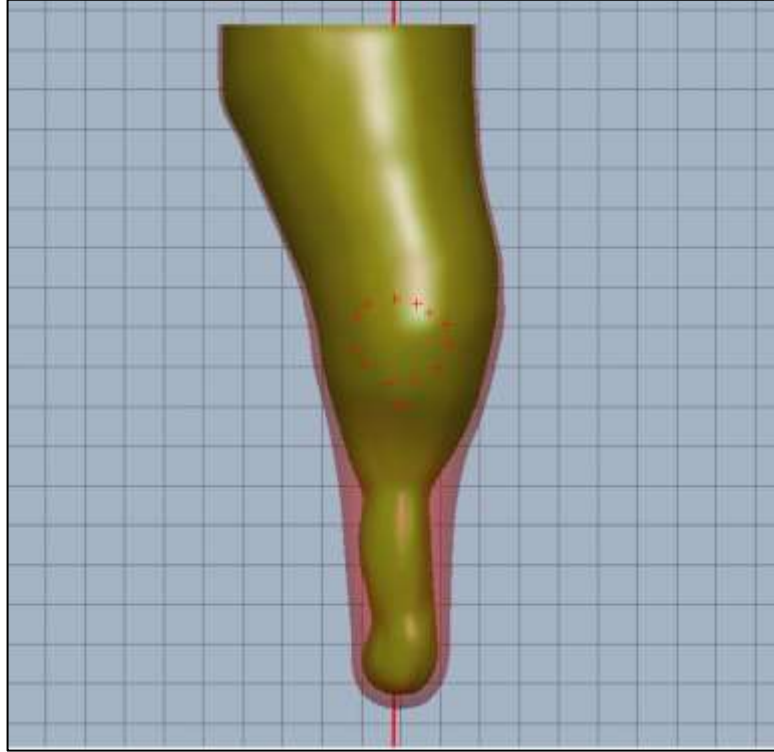
Symes prosthesis with
Alpha Liner and
Impulse® Foot

PATIENT EXAMPLE #1: LATERAL VIEW



WillowWood

PATIENT EXAMPLE #1: ANTERIOR VIEW



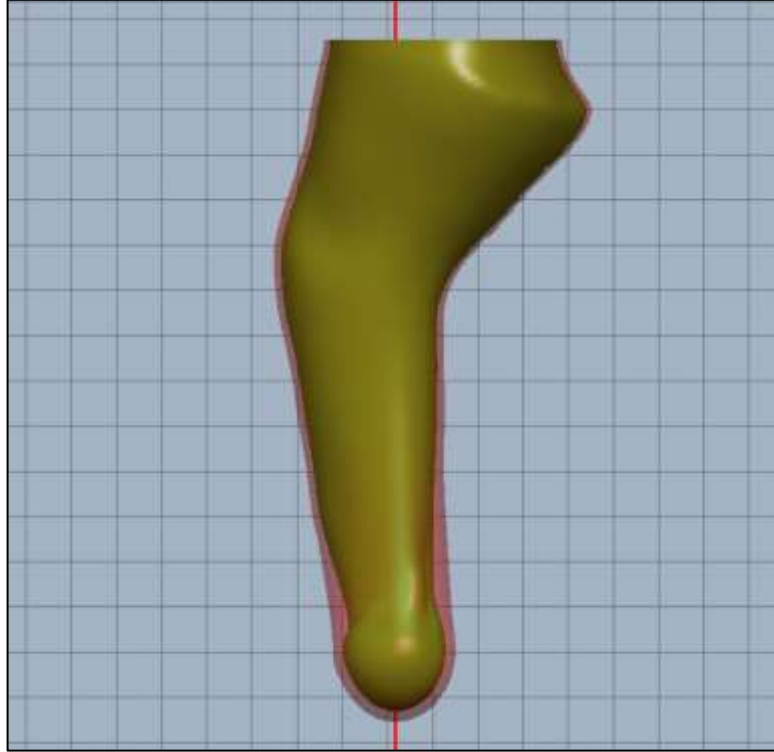
PATIENT EXAMPLE #2: EVALUATION AND ASSESSMENT

- Symes with very bulbous end

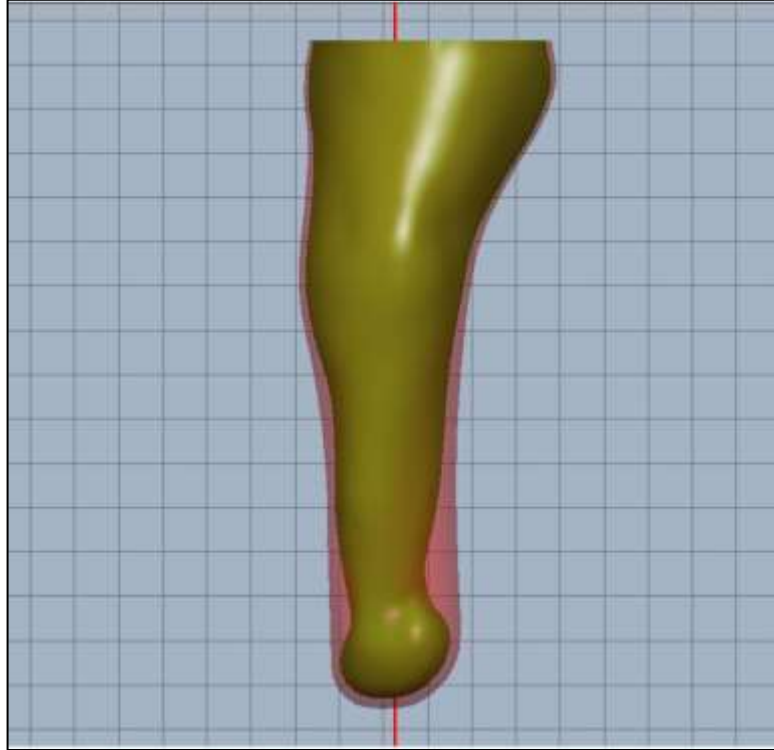


Symes prosthesis with
Alpha Liner and
Impulse® Foot

PATIENT EXAMPLE #2: LATERAL VIEW



PATIENT EXAMPLE #2: ANTERIOR VIEW



WillowWood

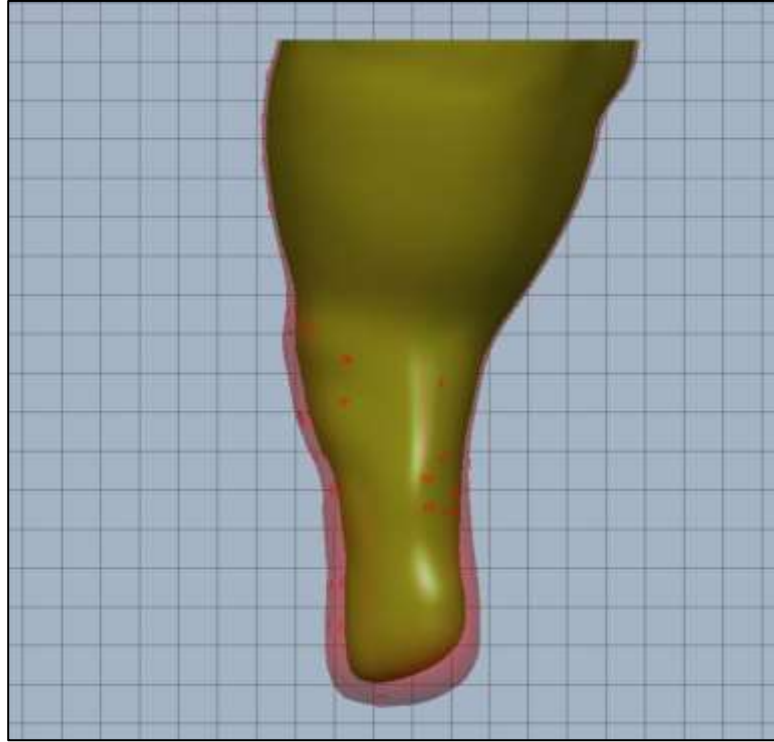
PATIENT EXAMPLE #3: EVALUATION AND ASSESSMENT

- Mature residual limb with larger thigh

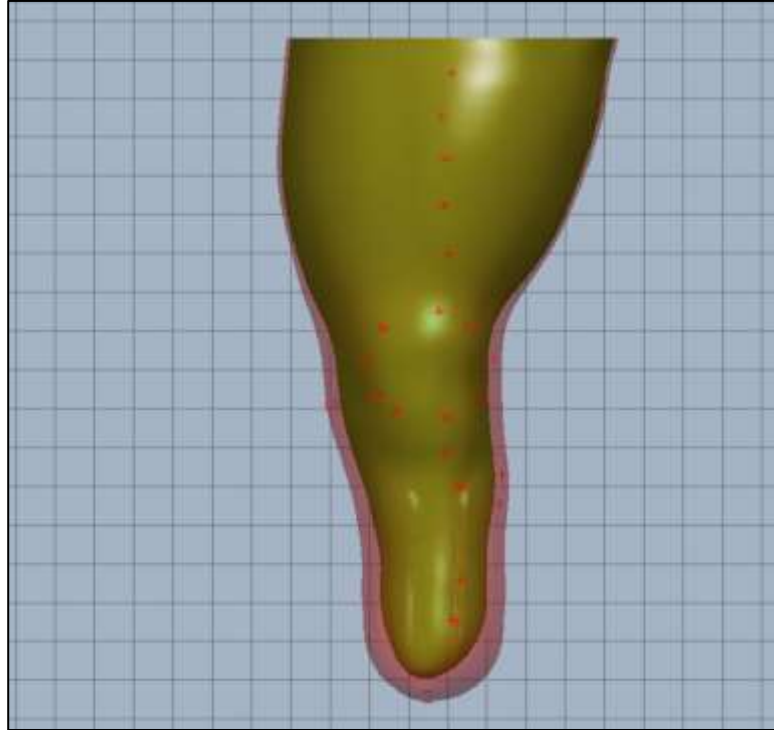


Symes prosthesis with
Alpha Liner and
Impulse® Foot

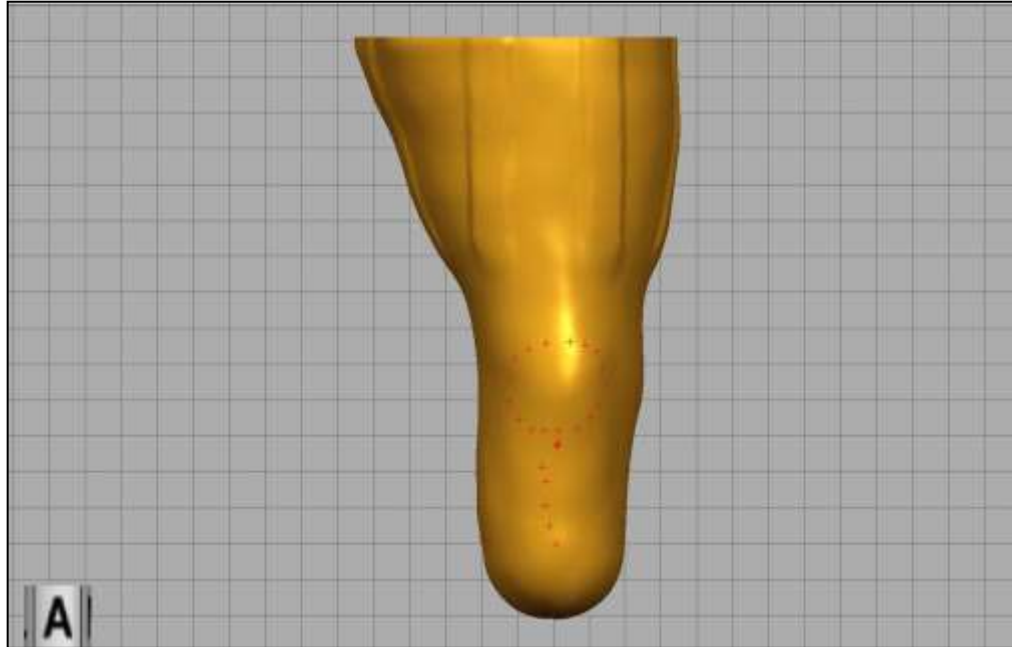
PATIENT EXAMPLE #3: LATERAL VIEW



PATIENT EXAMPLE #3: ANTERIOR VIEW



PATIENT EXAMPLE #3: OPTIONAL STAYS





LINER PRICING/WARRANTY

WillowWood

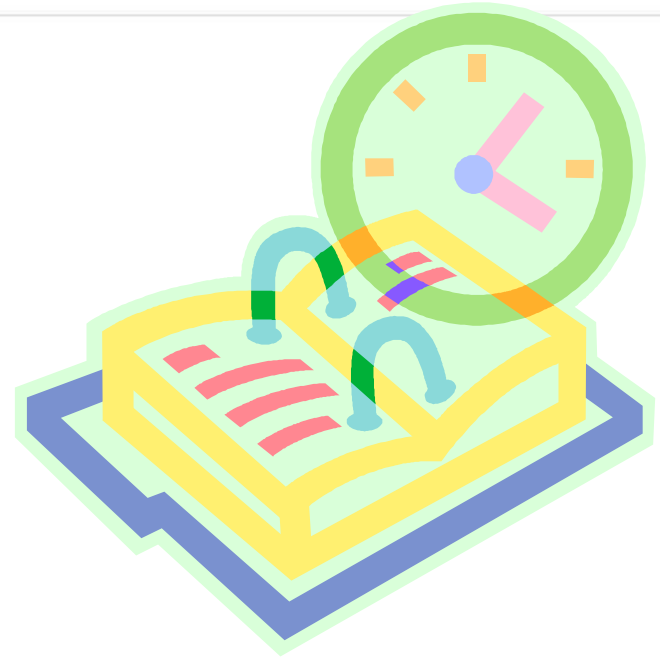
PRICING

Description	Cushion	Locking
DESIGN Liner from OMEGA	\$400	\$430
DESIGN Liner from cast or .aop file	\$450	\$480
Duplicate DESIGN Liner	\$300	\$350

- AK Comfort Cuff Add-On \$35.00
- Webinar Assist \$75.00
- Shape File Modification Assist \$50.00
- Cancellation of order in production \$75.00

LEAD TIMES

- Classic 5 days
- Hybrid 10 days
- Duo 10 days



Duplicate liners take the same time to fabricate

WARRANTY

- 30-day trial period for overcoming any patient rejection reasons
- 12-month warranty per liner (based on the fit date)



WillowWood



LIMBLOGIC

Mechanical and Electronic

WillowWood

LIMBLOGIC

- LimbLogic options
 - LimbLogic M (TT)
 - Distal Mount
 - Side Mount (TF)
- Vacuum Settings
- Static and Dynamic test socket fitting
- One System
- LimbLogic Field Diagnostics
- Warranty



LIMBLOGIC M

WillowWood

INTRODUCTION

- LimbLogic M is a mechanical vacuum pump that operates by compressing with each step
- Adjustable vacuum and stiffness settings
- Inline assembly
- Low build height
- Flexibility in componentry selection



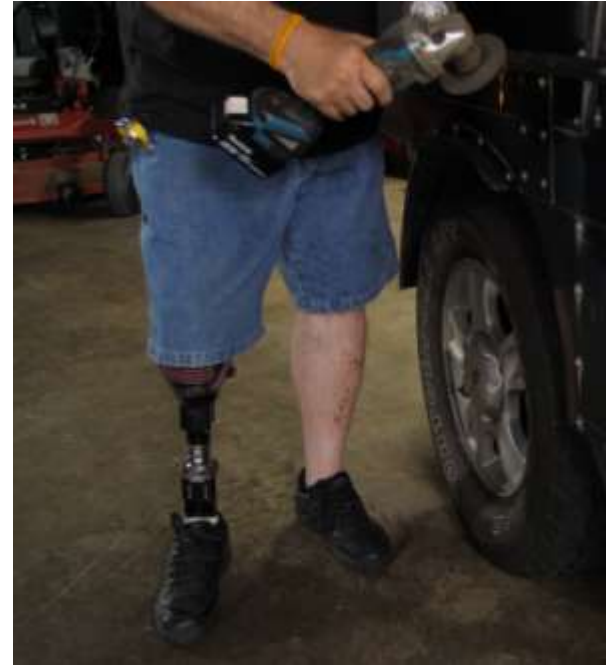
TWO VERSIONS

- Standard (LLM-1000-L)
 - 160 - 330 lb (75 kg - 150 kg) weight limit (up to K3 activity level)
 - 160 - 300 lb (75 kg - 136 kg) (K4 activity level)
- Light (LLM-1001-L)
 - 100 - 170 lb (45 kg - 77 kg) weight limit



CARE AND MAINTENANCE

- Water resistant
 - Not waterproof; do not submerge
- Low maintenance requirement
 - Do not apply oil or grease
- Not field serviceable





LIMBLOGIC

WillowWood



FEATURES

WillowWood

DISTAL AND SIDE MOUNT



FEATURES

- Patient weight limit for Distal Mount 160 kg (136 kg for K4)
- Utilizes Bluetooth® Low Energy
- iOS Patient and Clinician Apps
- Waterproof in fresh water to a depth of 3.0 m
 - Fob is **NOT** waterproof
- Vacuum scale to 20



LINERS AND SUSPENSION FOR CHALLENGING LIMBS

WillowWood

