

# Measuring.

Our prosthetic covers were designed to work for both Transtibial and Transfemoral prostheses. Our goal was to create a product that is very simple to fit with minimal measurements required. Think 'shoe sizes'. We only require a **LENGTH** and **WIDTH** measurement to place the order which is a great alternative for prosthetists looking to reduce time spent carving foam cosmetics.

Our covers are also easily removable, so there is no need to ruin the cosmetic if you need to make an adjustment to one of your client's prostheses!

See below for how to measure the Length and Width for both a BK and AK cover. (We also have 2 minute videos on [prostheticcovers.com](http://prostheticcovers.com) that shows how to measure each.)

We have three set **WIDTHS** to choose from: **SMALL**, **STANDARD**, & **LARGE**. And the **LENGTHS** of covers go up in half inch increments from 12 - 20 inches.

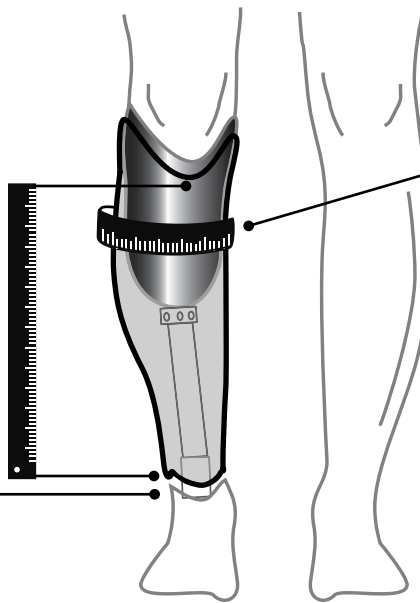
## BELOW KNEE

### LENGTH

Measure from the lowest dip in the front of the socket to the top of footshell.

### GAP

Make sure to leave a 1/2 to 1 inch gap between the bottom of the cover and top of the footshell to allow for dynamic movement. This prevents the cover from constantly impacting the top of the footshell which will eventually cause the cover to crack.



### WIDTH

Measure the circumference of the widest part of your socket. Keep in mind the cover is a hard plastic shell that needs to fit over top of a hard socket. If the socket is wider than the sound limb, the cover will look larger than the sound limb. If the socket is thinner than the sound limb, then measure the circumference of the widest part of the sound limb so that you get a cover that is more proportionate to the other leg.

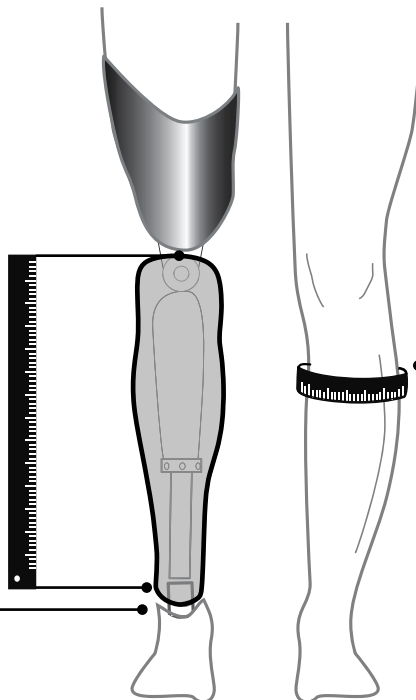
## ABOVE KNEE

### LENGTH

Measure from the apex of the mechanical knee to the top of the footshell.

### GAP

Make sure to leave a 1/2 to 1 inch gap between the bottom of the cover and top of the footshell to allow for dynamic movement. This prevents the cover from constantly impacting the top of the footshell which will eventually cause the cover to crack.



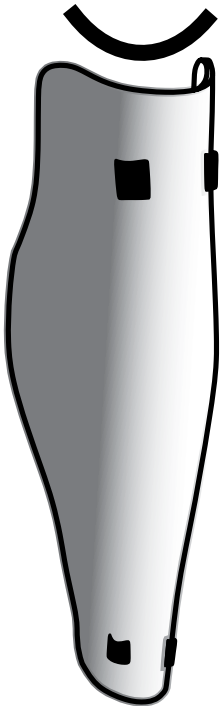
### WIDTH

Measure the circumference of the widest part of the sound limb. We want to create a cover that is proportionate to the other limb to create symmetry.

For bilateral clients use best judgment for size or feel free to reach out for a recommendation.

# Top Shape.

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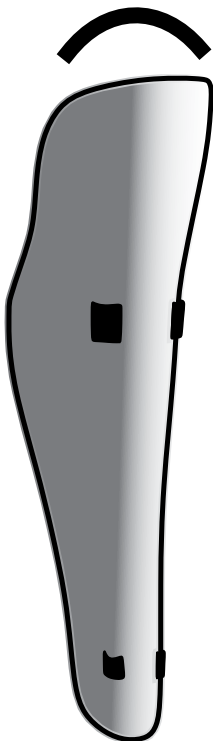


## **DIP TOP**

The top shape refers to the profile of the top of the cover. The DIP TOP is recommended for Below Knee Prostheses as it follows the profile of the top of a socket. The overall shape has also been designed to work with the contours of a BK prosthesis.

Since every socket is so different, we needed to come up with a shape that worked for as many people as possible. With that said, BK covers could require a bit of adjustments once they arrive.

The covers are made of ABS plastic making them heat mouldable (see Appendix C (page 18) for heat forming instructions). A typical adjustment would be to remove the top strap and gently spot heat the top of the cover and press it against the socket to get a tight fit.



## **ARCH TOP**

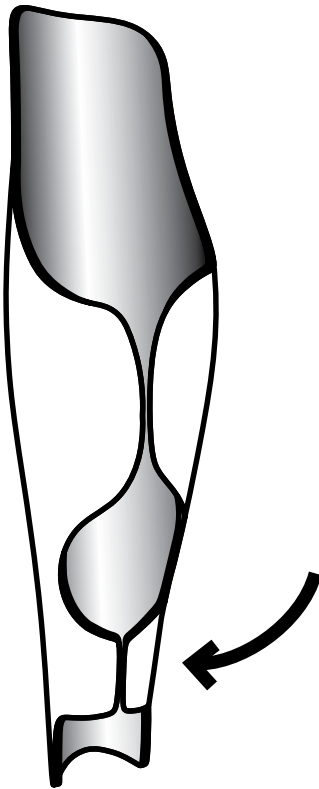
The ARCH TOP is recommended for Above Knee Prostheses. AK covers typically fit right out of the box and simply need to be strapped to the prosthetic components.

AK covers work well with microprocessor and hydraulic knees. If a client uses a polycentric knee we usually move the strap placement to ensure there is no interference with motion (see Appendix G (page 22) for the additional measurements we will require if your client uses a polycentric knee.

We have many people who kneel on their covers with no issues, however constant impact while kneeling could cause the cover to crack over time. Some AK clients choose to get the DIP TOP and measure just below the knee bumper on their prosthesis so that they are then kneeling on their prosthesis rather than their cover.

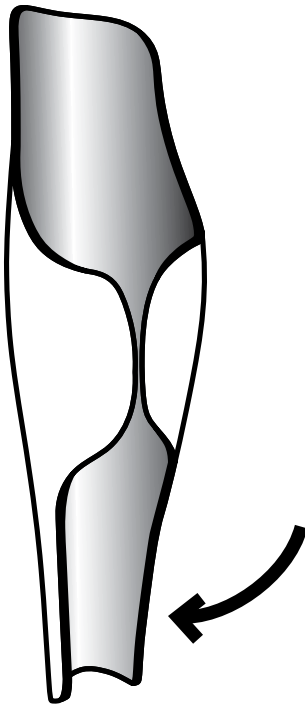
# Back Shape

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## **RACER BACK**

The Racerback features a fully enclosed ankle and is a great option for clients looking to fill out the ankle portion of their pants or who are seeking a prosthetic cover with more coverage.



## **SPORT BACK**

The Sport Cut is designed with an open ankle to accommodate large foot components, shock absorbers, rotators, etc.. and allow the room needed for dynamic components.

It is also much easier to put on and take off, making it an excellent option for clients with limited dexterity or clients who would prefer to be able to mix & match easier.

# Color Selection

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## COLOR SELECTION

Most of our covers follow one simple theme. There's the MAIN COLOR, which is the dominant color on the front and the inside of the cover. And there's the DETAIL COLOR, which is the color for all the detailing on the front of the cover.

Outside of this, there are covers that will have a minor variation on this theme. For example, some covers will have extra details or specific details being offered in additional colors or finishes.

Below shows four different covers all following the same color logic to give you a better idea of how the color selection works:

MAIN COLOR: **Cobalt Blue**  
DETAIL COLOR: **White**



MAIN COLOR: **Silver**  
DETAIL COLOR: **Red**



MAIN COLOR: **Nude #1**  
DETAIL COLOR: **Orange**



MAIN COLOR: **14K Gold**  
DETAIL COLOR: **Navy**



# Color Swatches.





# Nudes.

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We have curated 5 colors of Nudes to cover a range of skintones. However, we do realize that there are far more skintones than that so we do offer color matching if you want something more specific. We use the free Pantone color App for color matching. See next page for how to use the App to match skintones.

# CUSTOM COLORS USING PANTONE APP

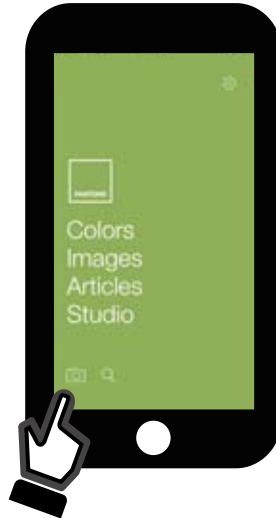
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## 1 DOWNLOAD FREE PANTONE APP



Go to your App Store and download the Free Pantone Studio App.

## 2 SELECT CAMERA BUTTON



Open the Pantone Studio App and Select the camera button.

## 3 PHOTOGRAPH COLOR TO MATCH



Photograph the color you want to match. The squares in the middle of the screen represent all the colors currently in the shot. Make sure you capture a photo that is a close representation of the color you are trying to match.

## 4 SELECT COLOR SWATCH



You can move the dots around by dragging them. This will allow you to sample different areas. Once you've found a color that you're happy with, select the square by pressing on it.

## 5 PROVIDE COLOR CODE

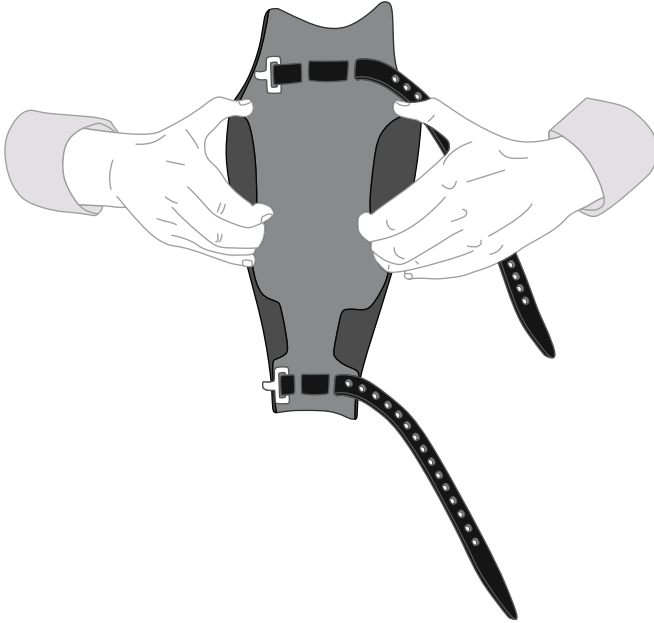


If you press on any of the squares at the top of your screen it will bring up this color swatch. The swatch needs to end in 'SP' in order to be a skintone.

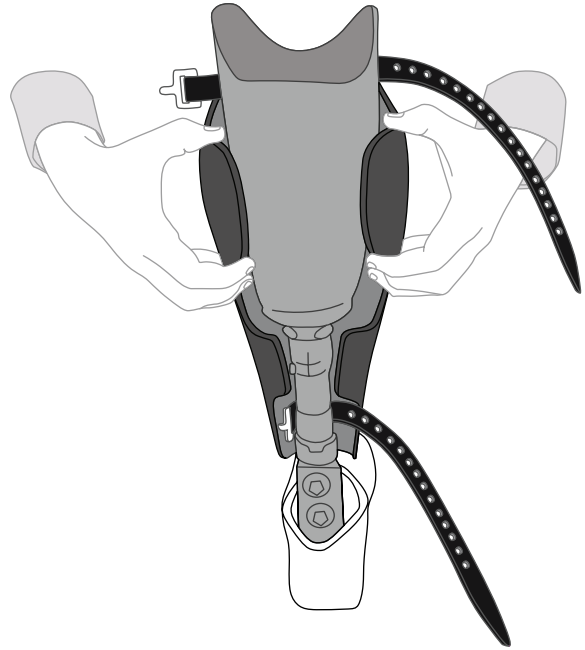
On the order form make sure to provide the color code so that we can match it on our end or send us an email with a screenshot of the swatch. For this example the color code would be: **1Y01 SP**.

# HOW TO PUT COVER ON

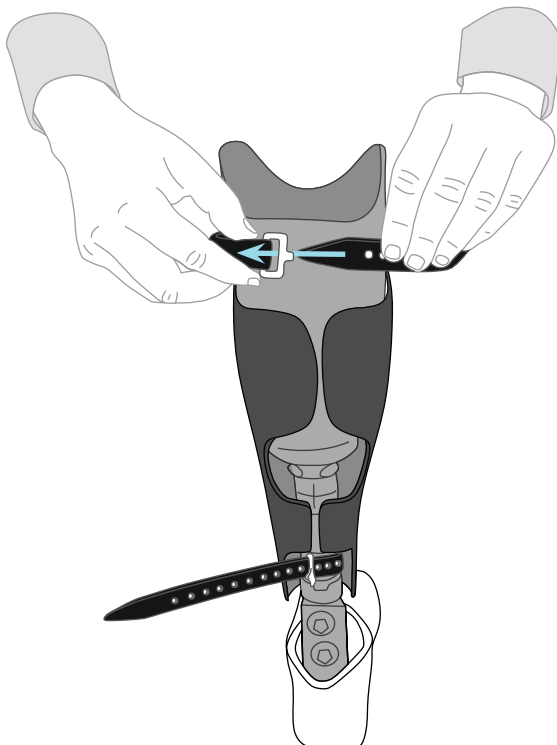
- 1 GRASP COVER BY 'WINGS'.  
(COVERS ARE SLIGHTLY FLEXIBLE.)



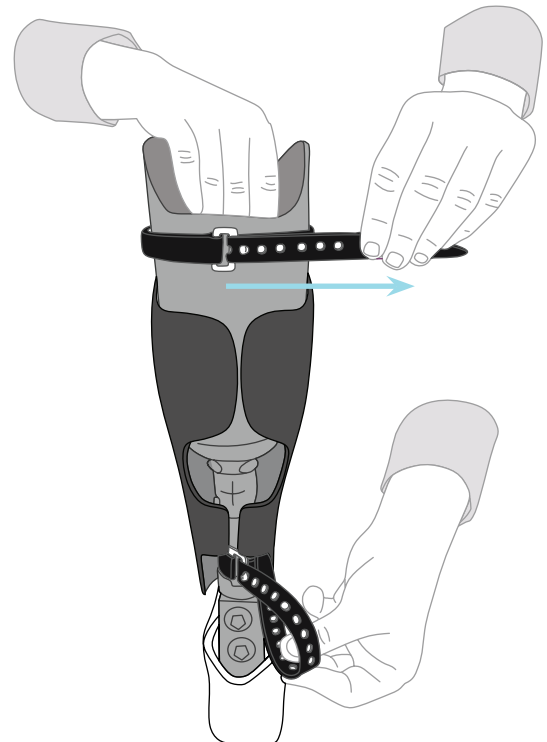
- 2 FLEX COVER WIDE ENOUGH TO FIT  
AROUND PROSTHESIS COMPONENTRY.



- 3 THREAD STRAP UP THROUGH  
BUCKLE FROM UNDERNEATH.



- 4 PULL STRAP BACK OVERTOP OF BUCKLE  
TO ENGAGE 'HOOK'.



- 5 TUCK TAIL INTO COVER OR TRIM EXCESS  
ONCE YOU KNOW NECESSARY LENGTH.



# POLYURETHANE STRAPS

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## STRAP ATTACHMENT

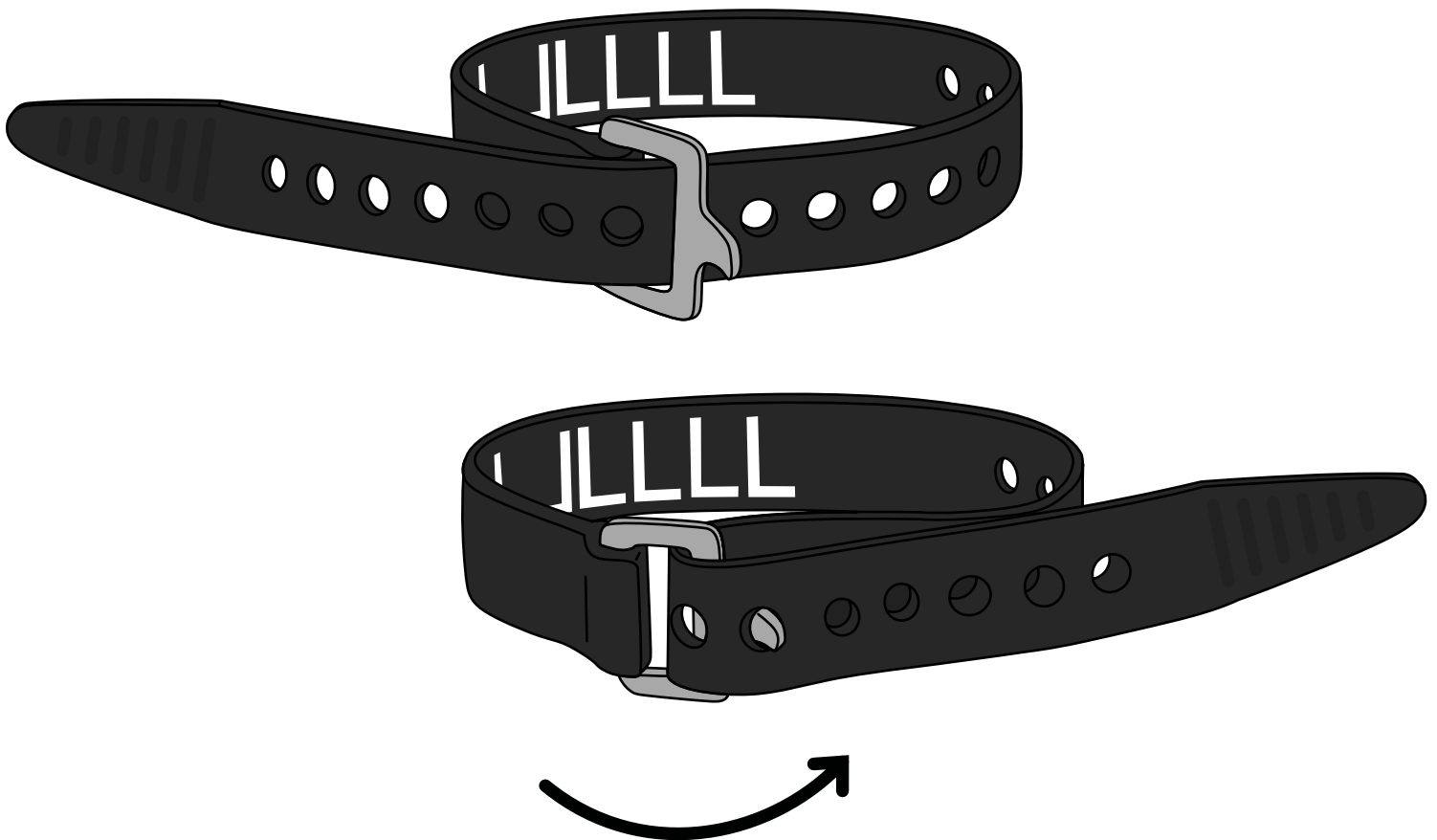
All of our covers are equipped with 2 polyurethane straps with aluminum hooks that simply grip around the components of one's prosthesis . This method of attaching:

- makes covers easily removable
- distributes energy minimizing cracking typically seen when using hard connections.

## HOW TO FASTEN

To fasten the straps, thread the tail through the aluminum buckle and pull the tail back over top of the hook.

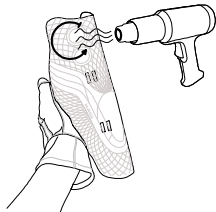
Sometimes you may need to weave the strap through the cover to find the optimal position to work with your prosthetic set-up and make it easier to access.



# HEAT FORMING INSTRUCTIONS

ALLELES covers are made of ABS plastic and can be modified by spot heating the cover. This is especially helpful for fitting below knee patients as the contours of sockets vary from person to person. See below for guidelines of how to adjust the covers.

## Very Small Adjustments



10 sec. = 210 F

STEP.1  
USING HEAT GUN

- Remove straps
- Heat a small section of cover.
- 10 seconds (approx) should heat cover to 210 - 220 F.
- ABS Material will become slightly pliable.



STEP.2  
HAND FORMING

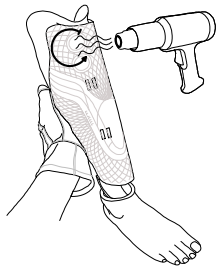
- Apply Pressure to Heated Area.
- Hold until cover is no longer flexible.

\*Wear Heavy Duty Work Gloves\*  
\*Time & Temperature Approximate\*

### NOTES:

- Paint / clear-coat will not be effected
- Good for making very small adjustments
- Plastic will still be quite stiff, but slightly workable. This is good when you need to make very small adjustments.

## 3 - 4 Inch Sections / Using Socket



15 sec. = 230 F

STEP.1  
USING HEAT GUN

- Remove straps
- Heat a small section of cover.
- 15 seconds (approx) should heat cover to 220 - 230 F.
- ABS Material will become flexible.
- Keep heat gun moving to ensure even heating.



STEP.2  
HAND FORMING

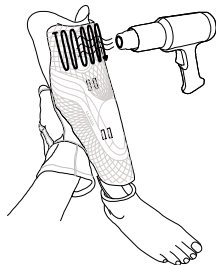
- Apply Pressure to Heated Area.
- Hold until cover is no longer flexible.

\*Wear Heavy Duty Work Gloves\*  
\*Time & Temperature Approximate\*

### NOTES:

- Paint will not be effected.
- Clear-coat may soften a little and may become marked (230 F +).
- At 230 F, the ABS is quite workable, and the paint and clear-coat should not be effected.
- Above 260 F, the ABS becomes softer. At these temperatures you also a greater risk of damaging the clear-coat and marking the paint.

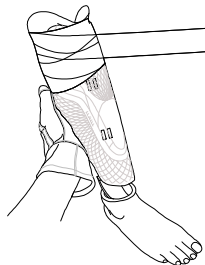
## Larger Sections



90 sec. = 260 F

STEP.1  
USING HEAT GUN

- Remove straps
- Heat top 3 inches of the Cover.
- 90 seconds (approx) heat cover to 260 F.
- Keep heat gun moving, to heat area as evenly as possible.



STEP.2  
ACE WRAP / ELASTIC BANDAGE

- Wrap heated area with ACE bandage.



STEP.3  
HAND FORMING

- Apply Pressure to Heated Areas and hold.
- Cover will cool down after 1 minute and become solid.

\*Wear Heavy Duty Work Gloves\*  
\*Time & Temperature Approximate\*

### Disclaimer:

The ALLELES Design Studio Ltd. does not make any representations, warranties or guarantees, express or implied, as to the accuracy or completeness of the Manual. Users must be aware that updates and amendments will be made from time to time to the Manual. It is the user's responsibility to determine whether there have been any such updates or amendments. Neither The ALLELES Design Studio Ltd. nor any of its directors, officers, employees or agents shall be liable in contract, tort or in any other manner whatsoever to any person for any loss, damage, injury, liability, cost or expense of any nature, including without limitation incidental, special, direct or consequential damages arising out of or in connection with the use of the Manual.

# DURABILITY SCALE

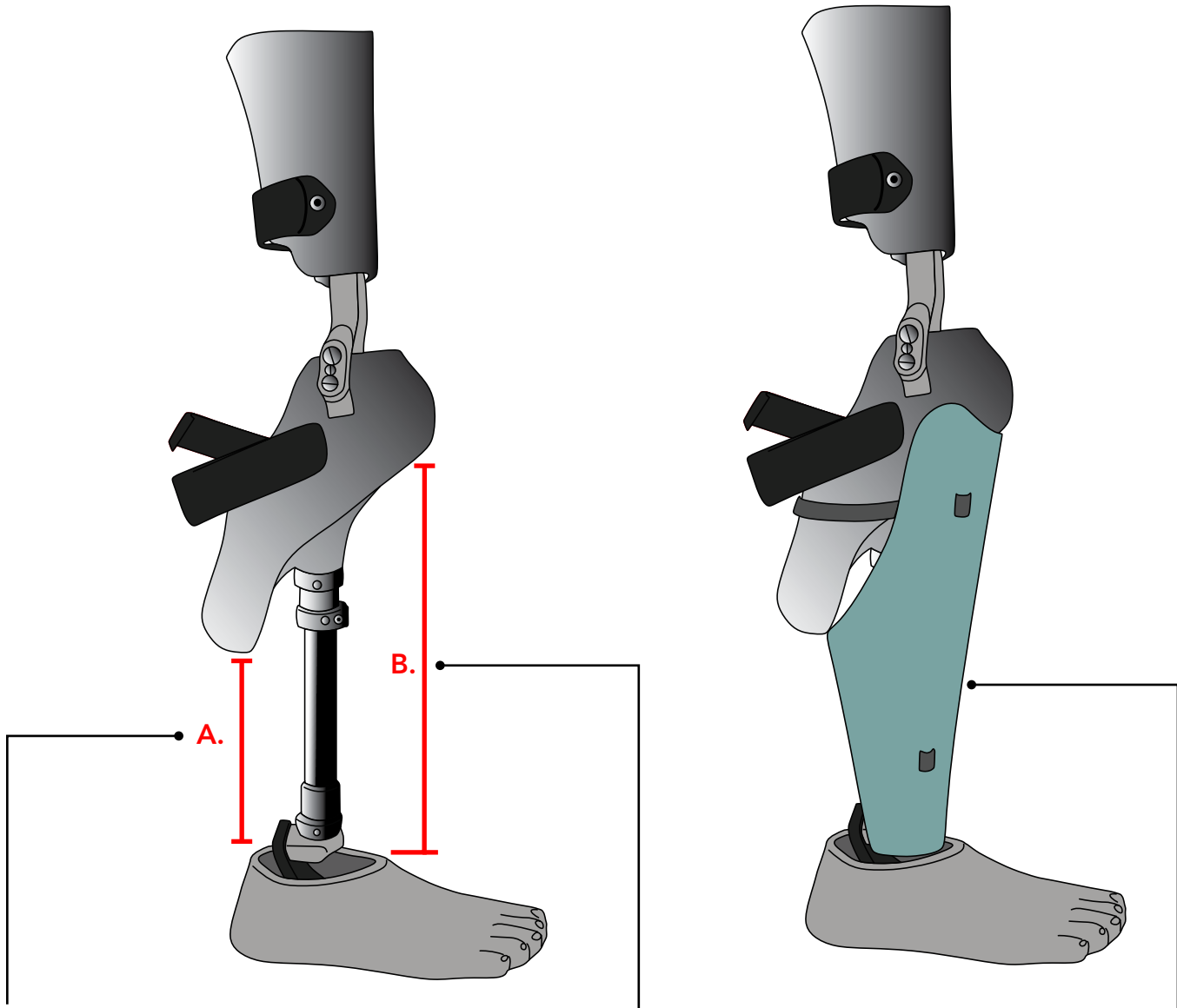
The durability of the covers completely corresponds to the patterning of the various designs. Covers with more perforations tend to be more delicate, and detailed, but also very lightweight. Whereas designs with less perforations are more durable, but are a bit heavier. Keep in mind that selecting a cover is completely based on your personal expectations for both design style and durability.

We have a relative durability scale where all the covers are rated against each other. Therefore, a higher score directly correlates to a cover's durability in relation to the rest of the product line. The table below lists the durability of all of the different Ready-to-Wear covers we offer.

Accessory				Protective					
1	2	3	4	5	6	7	8	9	10
<ul style="list-style-type: none"><li>•Victorian</li><li>•Sochi</li><li>•Steen</li><li>•Pines</li><li>•Paradigm</li><li>•Imperialist</li><li>•Merovingi</li></ul>	<ul style="list-style-type: none"><li>•Digital Rococo</li><li>•Houndstooth</li><li>•Demarche</li><li>•Fadilah</li><li>•Exius 2.0</li></ul>	<ul style="list-style-type: none"><li>•John-Paul</li><li>•Geomecon</li><li>•Mythic</li><li>•Salt Pro</li></ul>	<ul style="list-style-type: none"><li>•L-Trainer</li><li>•HIFI</li><li>•Roth</li><li>•Monarch</li><li>•Deco</li><li>•Palms</li><li>•Gaia</li></ul>	<ul style="list-style-type: none"><li>•Stealth</li><li>•Exo</li><li>•Deep</li><li>•Eyes</li><li>•OM</li><li>•Janz-Pro</li></ul>	<ul style="list-style-type: none"><li>•Baller</li><li>•MTL</li><li>•Flora</li><li>•Racer</li><li>•Apollo</li><li>•Wings</li><li>•Hi-Top</li></ul>	<ul style="list-style-type: none"><li>•Alpine</li><li>•Bloom</li><li>•Modena</li><li>•Future</li><li>•Plaid</li><li>•DigiCamo</li><li>•Salt M2</li><li>•Deener</li><li>•LSDeener</li></ul>	<ul style="list-style-type: none"><li>•Moto</li><li>•Allens</li><li>•Paisley</li><li>•Glide</li><li>•Roe 2.0</li><li>•Jennings</li><li>•L750</li><li>•Khloris</li><li>•Nouveau</li><li>•Nouveau Colorway</li><li>•Royale</li></ul>	<ul style="list-style-type: none"><li>•Solo</li><li>•Solo Carbon</li></ul>	<ul style="list-style-type: none"><li>•L2</li></ul>

# MEASURING FOR ROTATIONAL PLASTY

If you have a rotational plasty patient we will require a couple extra measurements in order to fabricate the cover. Please make sure to add the extra measurements in the 'Notes' section of the order form and state that the cover is for a rotational plasty prosthesis. If you have questions, please reach out to us prior to placing the order.



## Measurement A.

Take a measurement from the tip of the pointed toe to the top of the footshell.

\*don't forget to subtract 1/2-1 inch to ensure there is a gap between the bottom of the cover and top of the footshell.

## Measurement B.

Cover Length. Take this measurement just below the 'heel/knee' of the socket to the top of the footshell. The cover will be able to butt against the socket really well with the 'DIP TOP' cut cover creating a very streamlines shape.

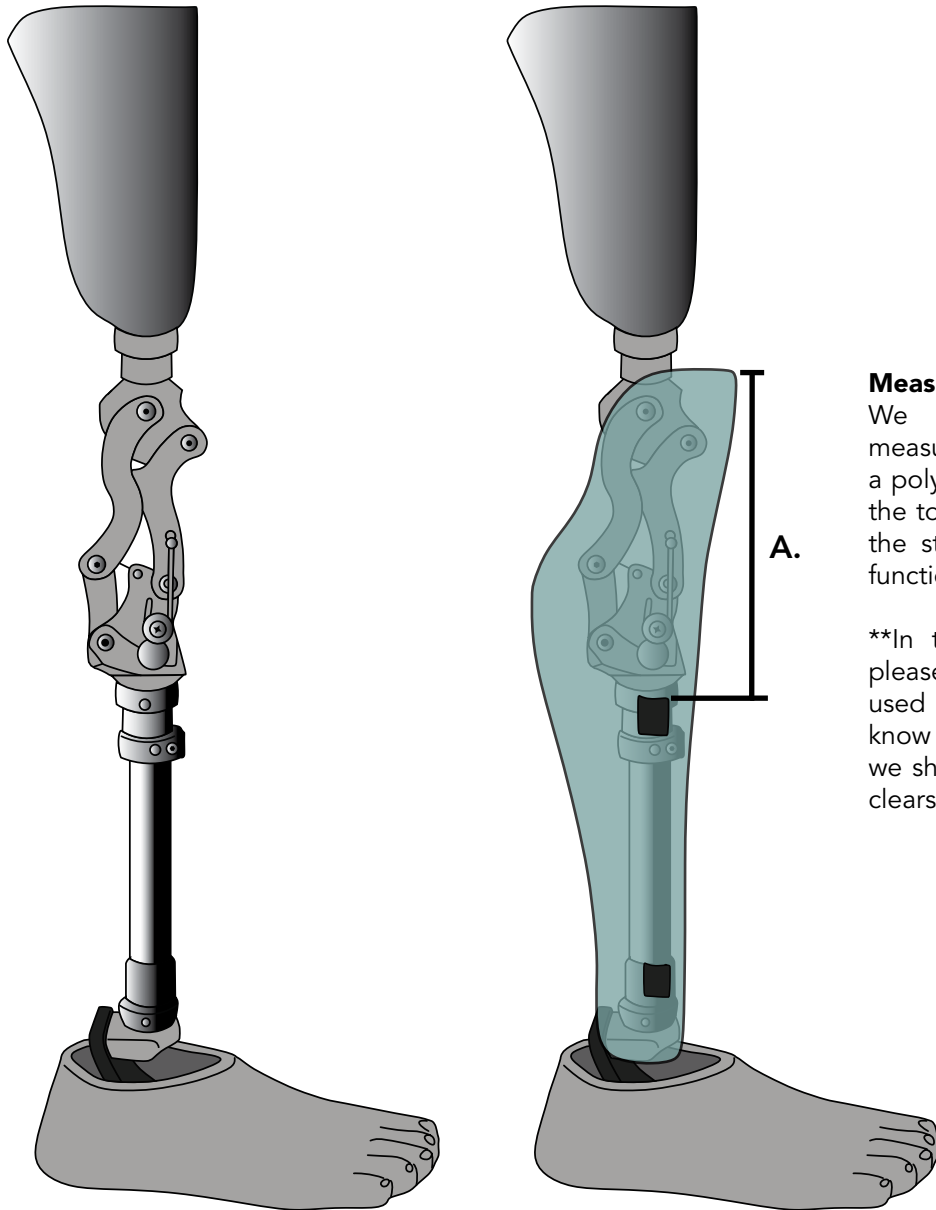
\*don't forget to subtract 1/2-1 inch to ensure there is a gap between the bottom of the cover and top of the footshell.

## Cover Shape.

We have come up with a new cut of cover that works well with rotational plasty prostheses. The shape blends the geometry of the rotational plasty set-up with the silhouette of the rest of the body. We are not trying to conceal the entire prosthesis with the cover as doing so would cause the shape to become very bulky and unflattering.

# MEASURING FOR POLYCENTRIC KNEE

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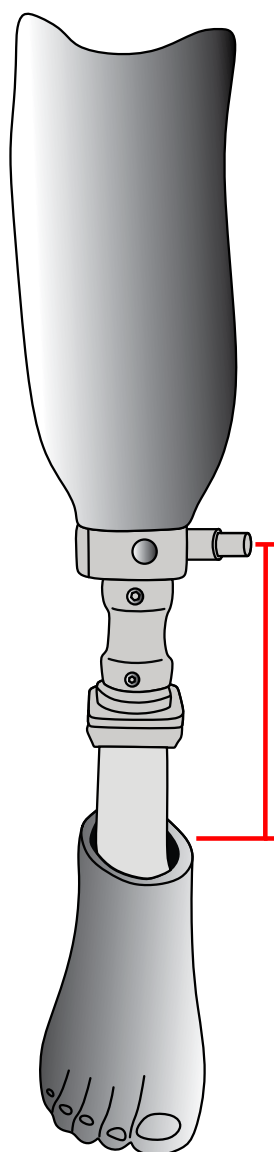
## **Measurement A.**

We will require an additional measurement when ordering a cover for a polycentric knee. We need to adjust the top strap placement to ensure that the strap does not interfere with the functionality of the knee.

\*\*In the notes section of the order please specify that the cover will be used on a polycentric knee and let us know how far from the top of the cover we should put the top strap so that it clears the knee mechanism.



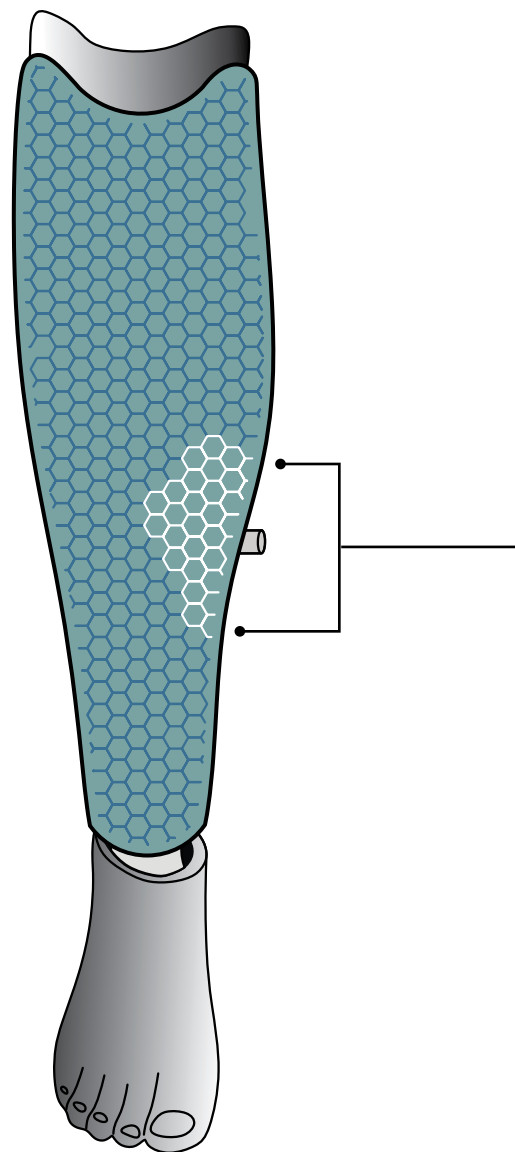
# RELEASE VALVES



## Measurement A.

We will require an additional measurement when ordering a BK cover with a release valve. Take a measurement from the bottom of the cover to the center of the release valve and give us a general idea of where it is positioned on the leg.

\*\*In the notes section of the order please specify that the prosthesis has a release valve and let us know the length of Measurement A. We will then adjust the design of the cover slightly to accommodate the valve.



## Cover Adjustment.

Once we receive the measurement of the release valve placement, we will adjust the patterning on the design. We will remove all the perforations in the general area of the release valve, but still keep the engrave details of the design. Once you receive the cover you will be able to drill a hole for the release valve in the EXACT place you need to. It is always hard to get the placement perfect on our end as you never know what perspective photos are taken from, etc. Removing the perforations ensures that when you drill the hole you are not drilling through the side of another hole which can jeopardize the overall strength of the cover.