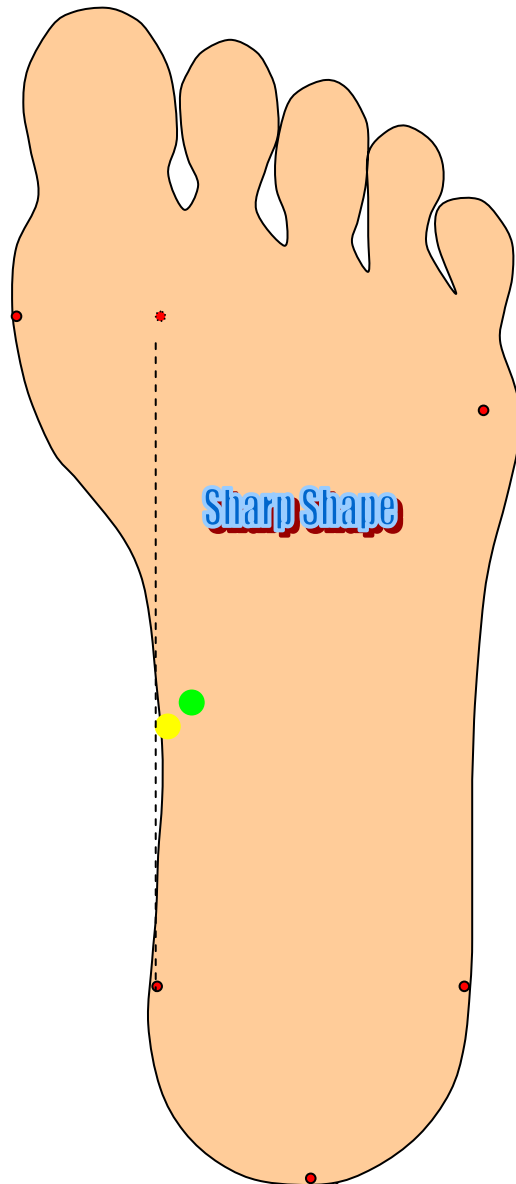


## Arch-Height Measurements in the Foot Scan Program

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Some customers requested to be able to measure the arch height during the scan of a foot. We have improved the scan program so it covers this feature. Please truly understand what the feature gives you. As you know, some heights such as the height of a cup have a fixed value within a small tolerance. Some heights such as the arch height of a foot have a fuzzy (or vague) value. It depends on where the ground is and where you measure the arch. Our approach (described in the following) means to improve the consistency. The accuracy will depend on how you use it. As you know through your production, consistency is very important since compensation can be made to improve accuracy, if an offset amount is known.



Please refer to the above drawing. The red dots are currently in our scan program. These landmark dots are user-adjustable.

To accomplish what we need, we add one dotted line and two more dots (the yellow and the green). Please refer to the drawing. We also add a height reading (not shown in the drawing, but it's in the program). The reading is the height of the green dot. The dotted line connects the 1<sup>st</sup> met. head and the dot by the medial side of the heel. The yellow dot is always placed in the middle of the dotted line by the program. If the 1<sup>st</sup> head or the dot at the medial side of the heel moves, the yellow dot will move accordingly. The yellow dot is not user drag-able. The green dot is user drag-able. Just click it and hold the mouse button and drag it. The yellow dot is the reference point. If you trust the location of the yellow dot as the arch, you can place the green dot over the yellow dot and get the reading. If you find somewhere else works better as the arch, you can place the green dot to that location and get the reading. Because feet have variety and arch heights may not be at the same location, we give you the flexibility.

To get the arch height, we have to come up with the idea of “ground” from a scanned image. Once the “ground” is defined, the arch height can be determined. We use three points as the “ground”, i.e. the 1<sup>st</sup> met. head, the 5<sup>th</sup> met. head and the center of the heel. We average the heights of these points as the “ground”. If the three “ground” dots move, the height reading may change accordingly.

There are some exceptions though, for example, the 1<sup>st</sup> or 5<sup>th</sup> met. head is placed on a void area (a hole). We eliminate that dot from the calculation. If all the three “ground” points are on holes, or your green dot is on a hole, you will not get valid reading.

If you have any questions, please write to us at [sharpshape@comcast.net](mailto:sharpshape@comcast.net). Thanks.

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