

### Objectives

- Discuss the progression of phlebotomy through time as well as new and emerging technologies in phlebotomy
- Identify which technologies are efficient and safe
- Summarize which technologies would be beneficial in laboratory or other settings

### Disclosure

I have no financial disclosures to report

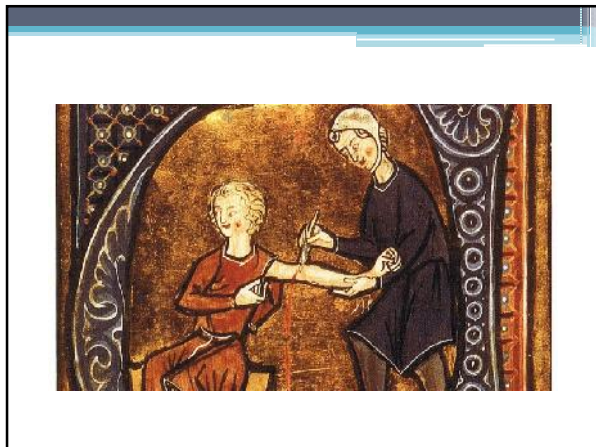
I am not affiliated with, nor do I have an agreement or arrangement with any of the companies or products that are shared within this presentation

I have no conflict of interest in the context of the subject of this presentation

### Phlebotomy History

In the beginning....

Lancets and Fleams



### The progression to the 18<sup>th</sup> and 19<sup>th</sup> Centuries:

#### Spring loaded lancets and the Scarificator

GEO. TIEMANN & CO'S SURGICAL INSTRUMENTS.

**PHLEBOTOMY.**

FIG. 198. Plain Spring Lancet.

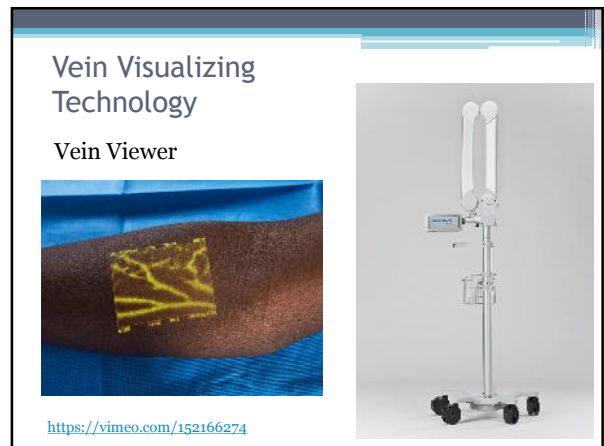
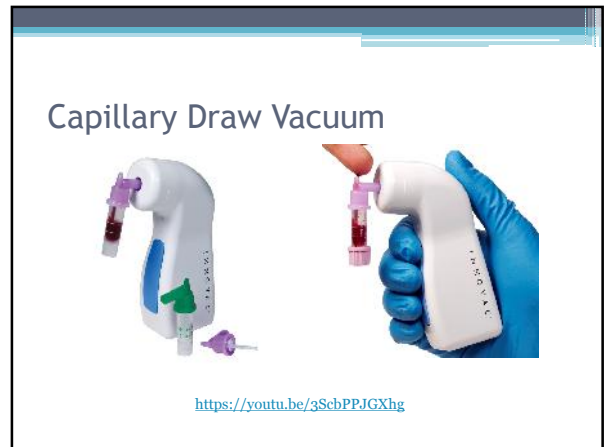
FIG. 199. Tiemann & Co's Spring Lancet.

FIG. 200. Bistour Trigger Spring Lancet.



# What comes next?

## Where do we go from here?



### Vein Visualizing Technology



<https://www.youtube.com/watch?v=HfussHki5QY>

### Vein Visualizing Technology

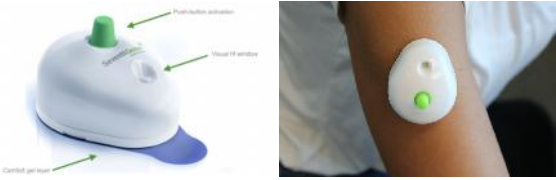
Veinlite



<https://youtu.be/LbMiLXFHyVo?list=PLmhZBq5hsaZOUthfRx56NqQvvEEzbUAG>  
<https://youtu.be/BkAZxjg9ew?list=PLmhZBq5hsaZOUthfRx56NqQvvEEzbUAG>

### Capillary 'Needleless' Devices

Seventh Sense Biosystems Tap



<https://www.youtube.com/watch?v=fKrTHvMr4VY>


### Capillary 'Needleless' Devices

Tasso Hemolink





### VAD Assisting Draw Technology

VelanoVascular's PIVO



### The Future of Phlebotomy and Medicine?



Perhaps not, or not *yet*...

## Veebot, the Venipuncture Robot



Prototype

CAD rendering of the Veebot System

<https://youtu.be/s3oFPobig1A>

## What do you think?

## Where can you see phlebotomy going?

## Photo/Video Credit

- <https://www.kshs.org/kansapedia/bloodletting-tools/10325>
- <http://www.bd.com/en-us/offering/capabilities/specimen-collection/blood-collection/venous-collection/bd-vacutainer-ultratouch-push-button-blood-collection-set>
- <http://www.phlebotomytraininggroup.com>

(also see website sources for additional photo credit)

## References

- <http://www.bcmj.org/premise/history-bloodletting>
- <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4783087/>
- <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC164393/>
- <https://www.darkdaily.com/new-microfluidic-blood-draw-device-could-replace-needle-sticks-and-venipunctures-at-medical-laboratories-817>
- <http://www.tassoinc.com/>
- <http://www.7sbio.com/>

## References, Cont.

- <http://velanovascular.com/>
- <https://www.veinlite.com/>
- <http://www.accuvein.com/>
- <https://www.christiemed.com/vein-illumination>
- <http://www.veeboot.com/>
- <http://www.innovativemedtech.com/products/inno-vac-quick-draw/>

## Thank You For Listening!

