看護もイノベーション!!

看護×工学=看護理工学

医学系研究科老年看護学分野 野寄修平

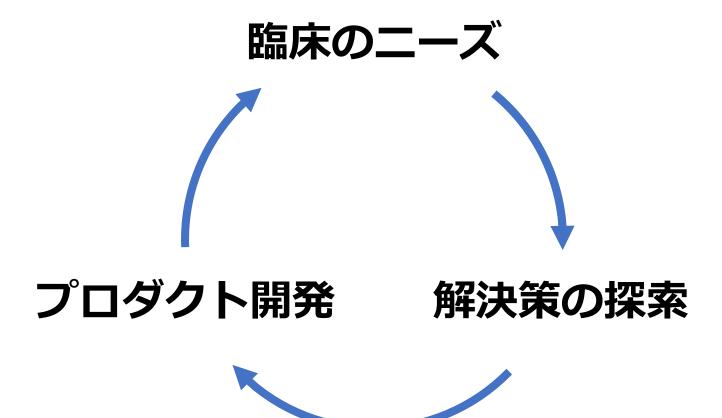
本日の目的と目標

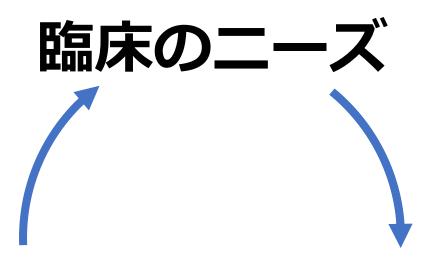
目的

• 「看護理工学」を知る

目標

• 看護理工学の円環を説明できる





プロダクト開発

解決策の探索



看護のイメージ?



健康診断



採血・点滴

手術





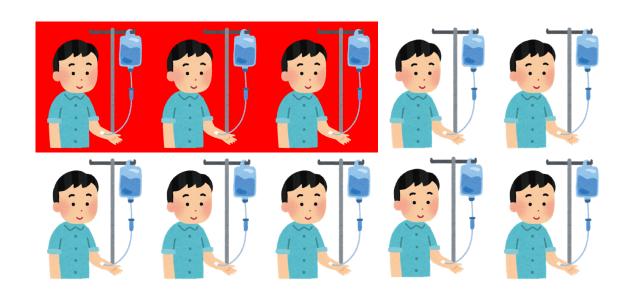
優しそう

採血・点滴

採血・点滴を**やり直した**ことはありませんか?

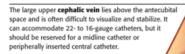
点滴にまつわる事実

300 で点滴漏れや痛みを生じ治療のやり直しが発生



苦痛・治療中断による療養生活の制限

点滴漏れや痛みの予防



The accessory cephalic vein branching off the cephalic vein is located on the top of the forearm. Medium- to large-sized, it's easy to stabilize and can accommodate 22- to 18-gauge catheters. Don't place the catheter tip in the bend of the arm.

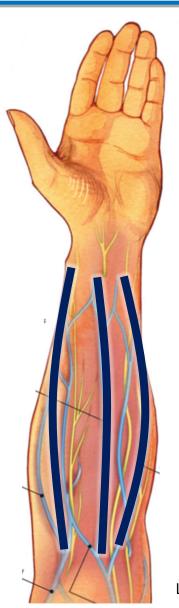
The median vein of the forearm originates in the palm of the hand, extends along the underside of the arm, and empties into the basilic vein or median cubital vein. Medium-sized and easy to stabilize, this vein can accommodate 24- to 20-gauge catheters.

The median cubital vein lies in the antecubital fossa. This site is generally used to draw blood and to place a midline catheter or peripherally inserted central catheter. A short peripheral catheter in this site limits mobility, and I.V. complications, especially infiltration, are difficult to detect in this area. An I.V.-related complication here means you won't be able to use veins below this site.

The **basilic vein** lies along the medial (little finger) side of the arm. Although large and easy to see, it rolls and is difficult to stabilize. Often ignored because its location makes it difficult to work with, it can accommodate 22- to 16-gauge catheters. Increase your success with this vein by placing the patient's arm across his chest and standing on the opposite side of the bed to perform the venipuncture.

適切な血管の選択がカギ

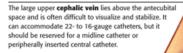
血管を探してみよう!!



腕には3つの静脈がある

- 橈側皮静脈
- 正中皮静脈
- 尺側皮静脈

点滴漏れや痛みの予防



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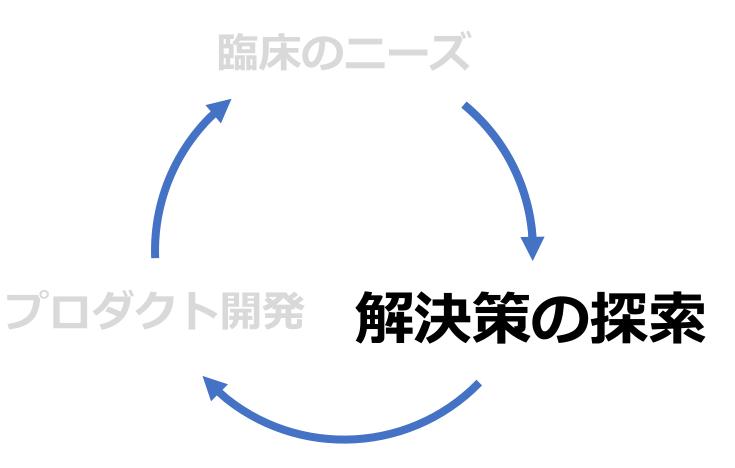
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適切な血管の選択がカギ

針の3.3倍の太さの血管 適切な血管の選択が力ギ

どうやって太さを知る?



超音波エコーを使う

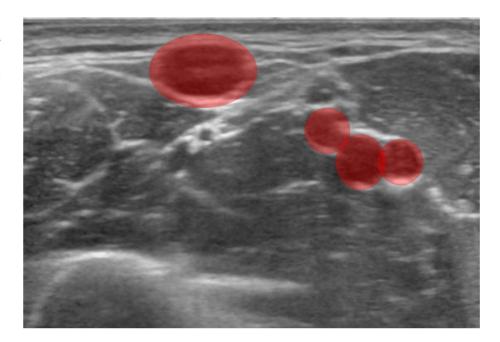
The large upper **cephalic vein** lies above the antecubital space and is often difficult to visualize and stabilize. It can accommodate 22- to 16-gauge catheters, but it should be reserved for a midline catheter or peripherally inserted central catheter.

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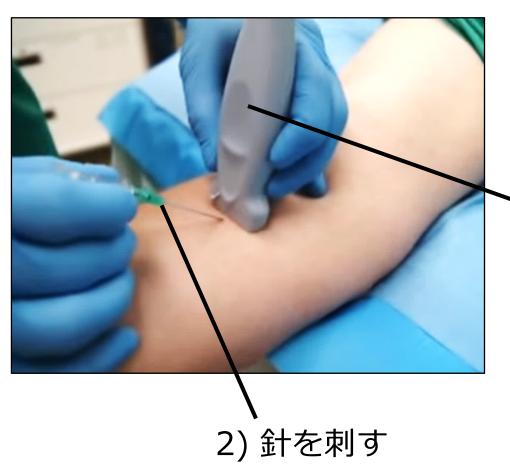
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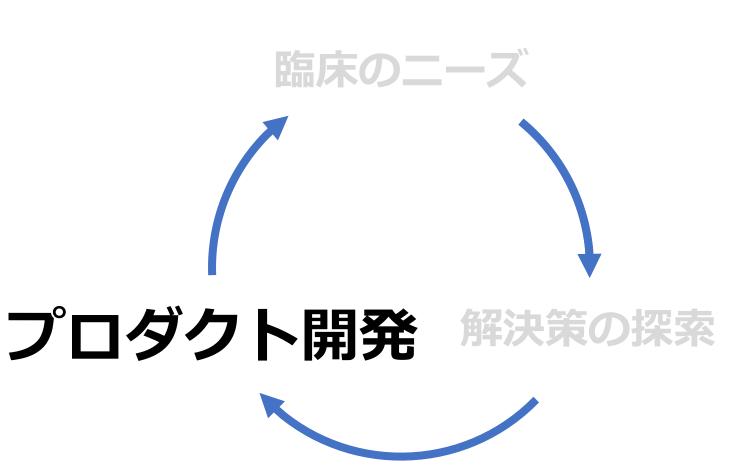


針を刺しながら使うのは大変



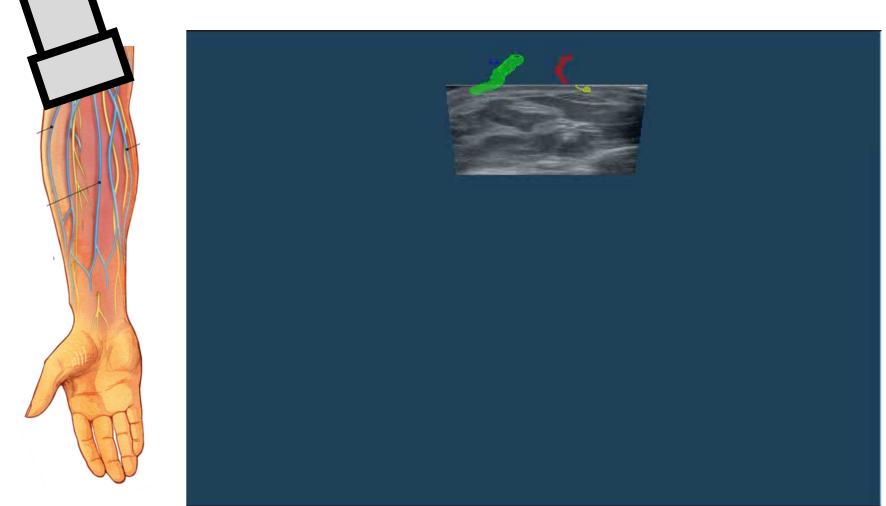
1) エコーを撮りながら

エコーを使わずに エコーを見ればよい



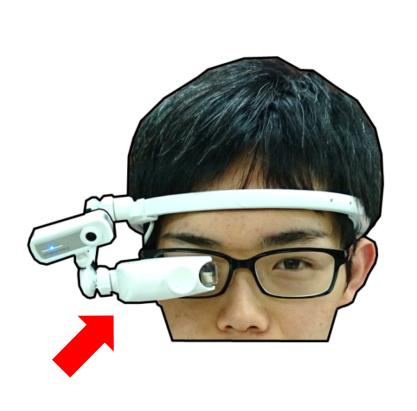
工学の出番!! その1

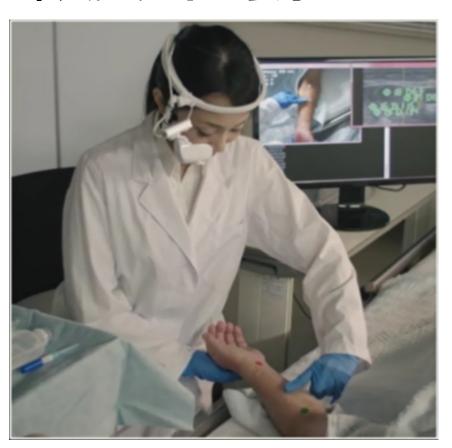
エコー画像から血管を3Dで構築



工学の出番!! その2

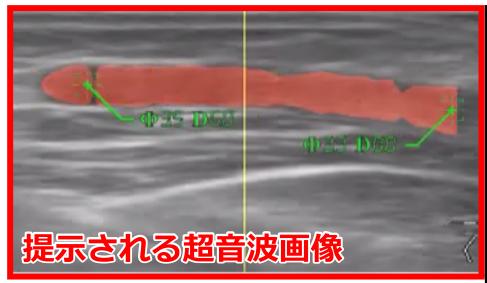
任意の断面の画像を ヘッドマウントディスプレイに表示





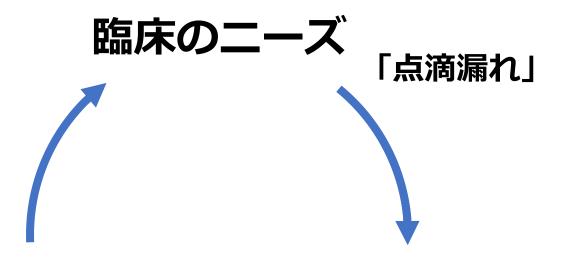
工学の出番!! その2

任意の断面の画像を ヘッドマウントディスプレイに表示





1.5倍速

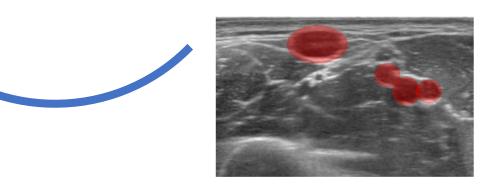


プロダクト開発

解決策の探索



工学との連携



エコーを使わずに エコーを見る

このクラスの目的と目標(再)

目的

• 「看護理工学」を知る

目標

• 看護理工学の円環を説明できる

