



HOME DIALYSIS CENTRAL

A program of the non-profit 

Home Dialysis Basics

Life@Home

Find a Clinic

Get Answers

News & Research

Professional Tools

About Us

There's No Place Like Home... For Dialysis!

Going home can give you a better, longer life!

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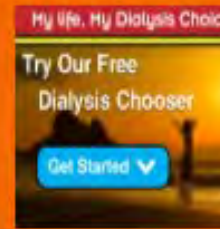


Home Treatment

Learn about your options for Home Dialysis.



Which Treatment Is Right For YOU?
Choose YOUR values & see what will fit your life best.



Home Dialysis Store

DVDs and FREE postcards.



3 Chair System
to
improve the
outcome
of Patients life

It doesn't
matter
what you
know. It
matters
what you
DO that
creates
CHANGE.



New Vocabulary Words



- Pre-Cannulation Training
- Touch Cannulation
- Cushion Cannulation
- Tandem-Hand
- Tap Cannulation
- Finger Cannulation

The most feared word in
dialysis
is



WEBSOPHIST.COM

Cannulation



5 Chapters

1. Putting the Pieces Together for New Patient's
 2. Using weights to improve AV/f
 3. PerCannulation Training
4. What First Time Cannulator's Need to Know Before They Cannulated
5. Use Fist-assist to replace the tourniquet

CMS new guidelines for 2013

Cather's less than $< 14\%$

AV/f greater than $> 66\%$

Are you there?



Putting the Pieces
Together for New patents

Renal Business Today

November 2012

Pages 27-29

Assigning chairs for new patients



Education of the patients

- Social Services
- Dietary
- Physician/Nephrologist
- Cannulation Nurse
- Charge Nurse
- Vascular access Coordinator

Patient Knowledge and Understanding

- Patient should now know what is expected of them:
- Angle
- Depth
- Flow
- Pain
- Positioning

Staffing Issues

- One of the main obstacles to overcome is having the same staff member cannulate the same patient.
- When patients are brought in they are told that this is temporary and will be for only 3 to 6 months.

Staffing Issues

Depending on the hours of operation of the clinic, a shift should be set up for MWF starting at 10:00 a.m. to 7:00 p.m., using the same chairs in the clinic and using the same staff.

First tier cannulator staff should be rotated out every 4 to 6 months. At that point, Second tier cannulators move up into first tier cannulator positions.

Use of Weights
to improve AV/f
Pre and Post

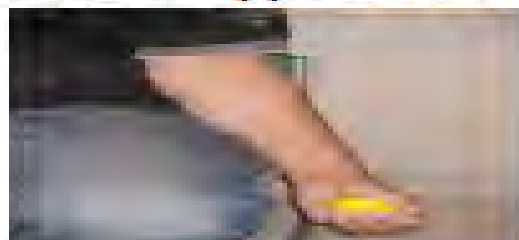
EXERCISES FOR YOUR FISTULA: BEFORE AND AFTER SURGERY

Exercising your fistula arm before your fistula is created may help make the vein bigger and improve your chances of having a working fistula. As soon as you know you will need a fistula, start doing the exercises.

Exercising your fistula arm after your fistula is created may help improve muscle tone and make your vein more stable and easier to needle. Your doctor or nurse will tell you when to start the exercises. In most cases, it is about 2 weeks after surgery.

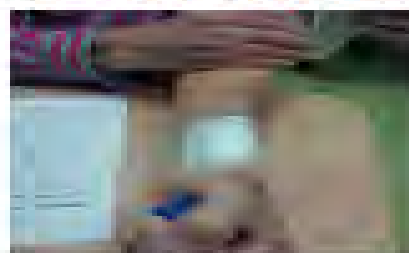
Please ask your nurse to demonstrate these exercises before you try them.

Exercise 1 Use for Upper and Lower Arm Fistula



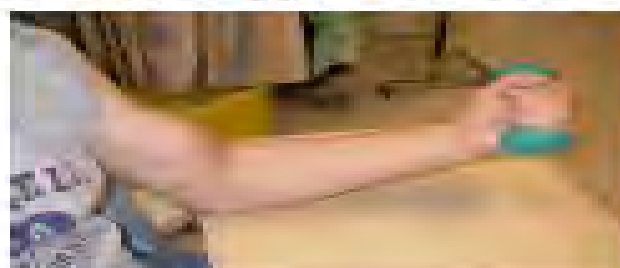
- Hold a soft ball or rolled wash cloth in your fistula hand.
- Allow your arm to hang down beside your body.
- Squeeze and release the ball in your hand for five minutes.
- Repeat this exercise 3-4 times a day.

Exercise 2 Use for Lower Arm Fistula



- Hold a soft ball or rolled wash cloth in your fistula hand.
- Using your non-fistula hand, apply pressure to your fistula arm below your elbow.
- Squeeze the ball or rolled washcloth. Count to 5 and then release.
- Do this for one to two minutes
- Repeat this exercise two or three times in both the morning and evening.

Exercise 3 Use for Upper Arm Fistula



- Rest your elbow on a table.
- Hold a two to five pound weight in your hand.
- Raise your hand and bend your elbow.
- Lower your hand down to the table.
- Repeat this exercise for one minute, 3 to 5 times a day.



The information in this pamphlet is provided for educational/information purposes, and to support discussion with your health care team about your medical condition and treatment. It does not constitute medical advice and should not substitute for advice given by your physician or other qualified health care professional.

This pamphlet can be downloaded from the BC Renal Agency website: www.bcrenalagency.ca



Ten reps ten times per day as tolerated



Arm down to increase blood flow



Starting the third week with the
Dr. permission

Male and Female

Start with a 1 pd

4 week 2 pd

5 week 3 pd

6 week 4 pd

7 week 5 pd

8 week 5 pd

are as tolerated



First AssistTM

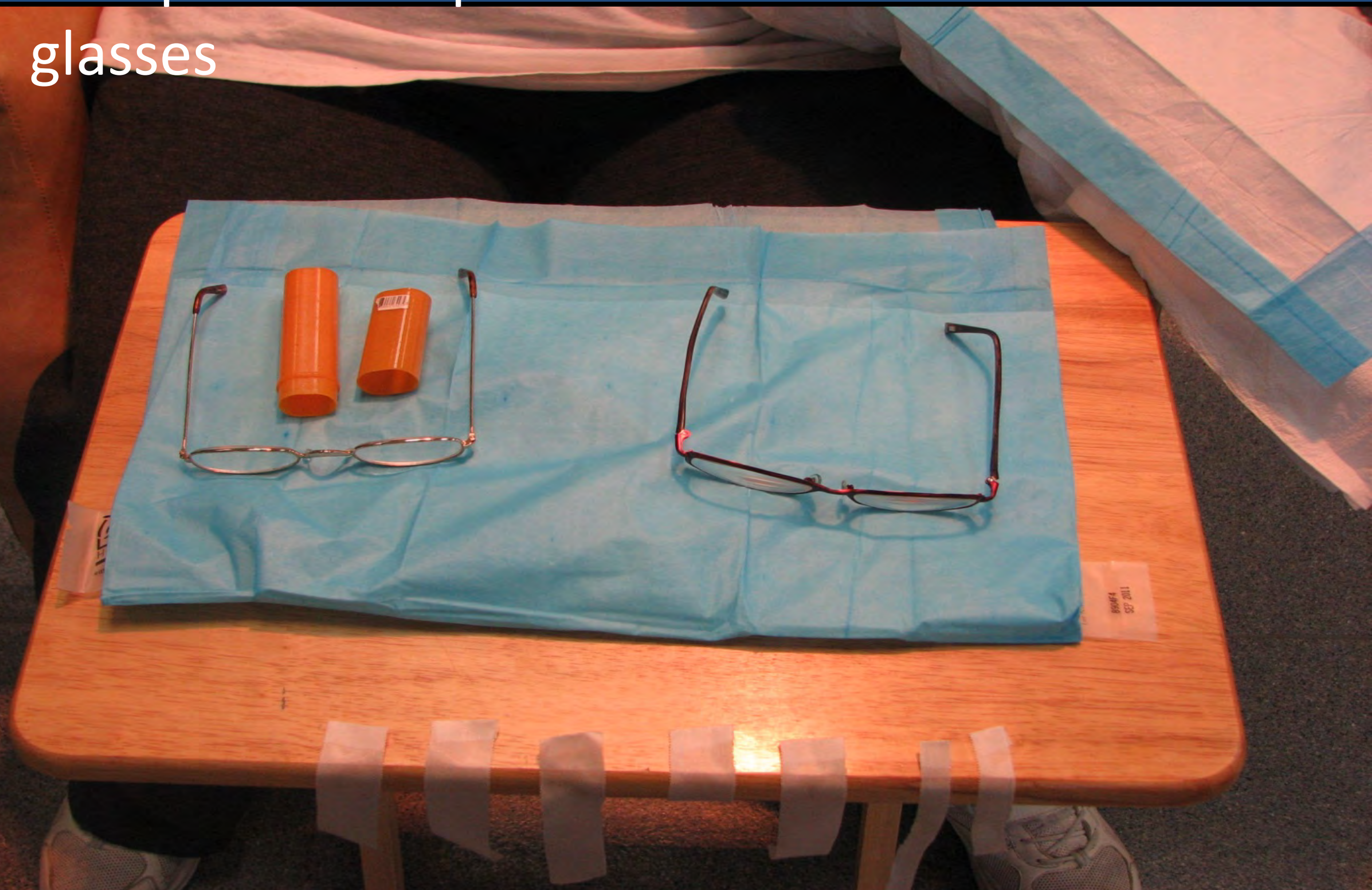
Chapter 3

Precannulation Training

Two Weeks prior to Cannulation

Clinic Observation

40% percent of patients Plus the STAFF need glasses



Tapping the needle on the surface of
the skin
repetitive painful stimulation is know
to produce a decrease in patients pain
over a period of time

Called pain Habituation

Dr Rodica Ghinescu

DD

Professors University of Lincoln

Jefferson City MO

In a recent article 20 subjects received a series of 10 blocks of 6s thermode stimuli. After each block, they were asked to rate their pain on a scale of zero to 100. They found that the mean pain level decreased gradually over eight days. They found the most important there was a significant difference in pain perception over a 8 days

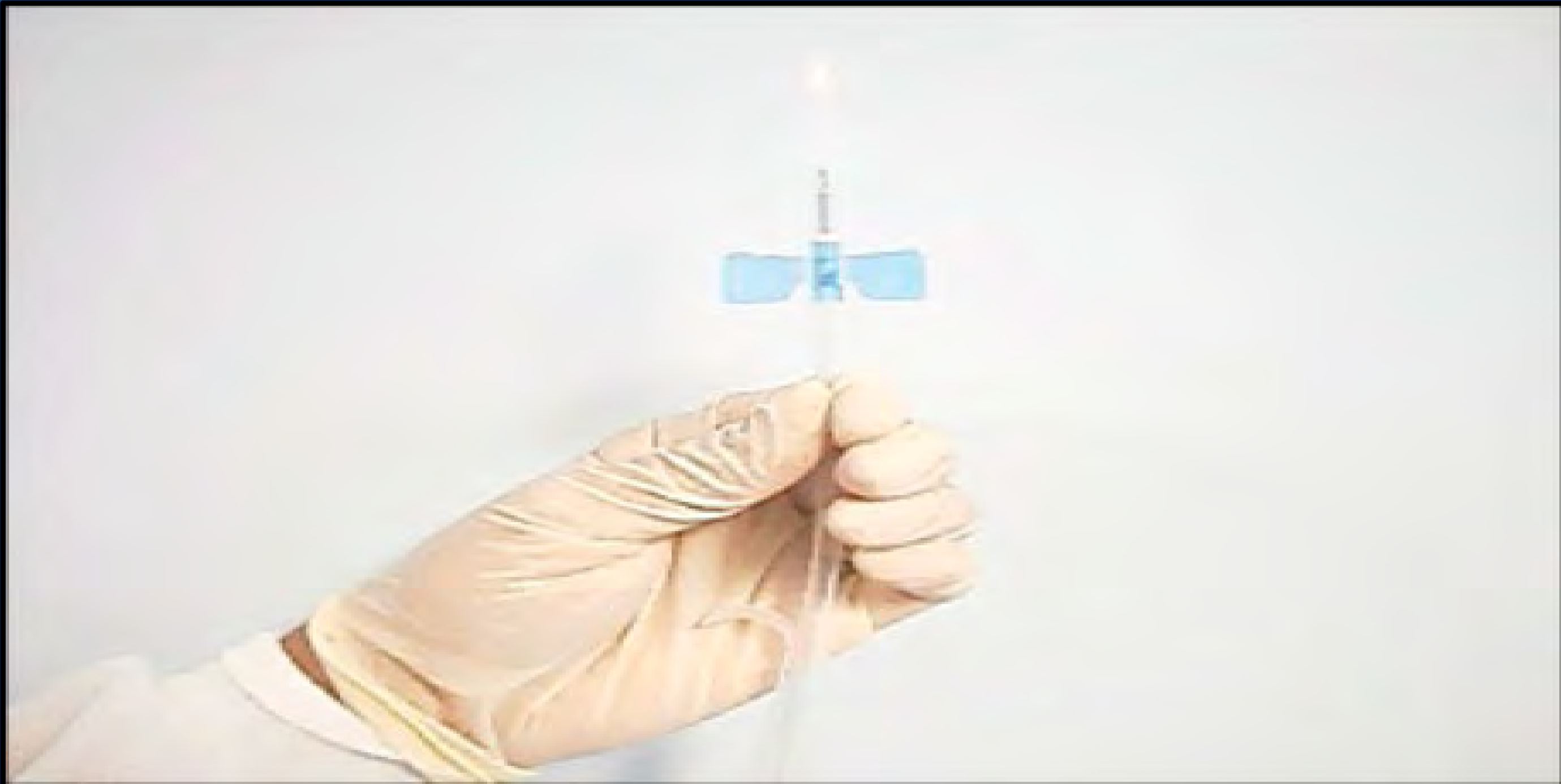
Reference: Bingel, u, school, E,
Herkin W, Buchel may (2007)

Habituation to painful
stimulation involves the
antinociceptive system Pain

Vol 131 (2) 21-30

Touch cannulation

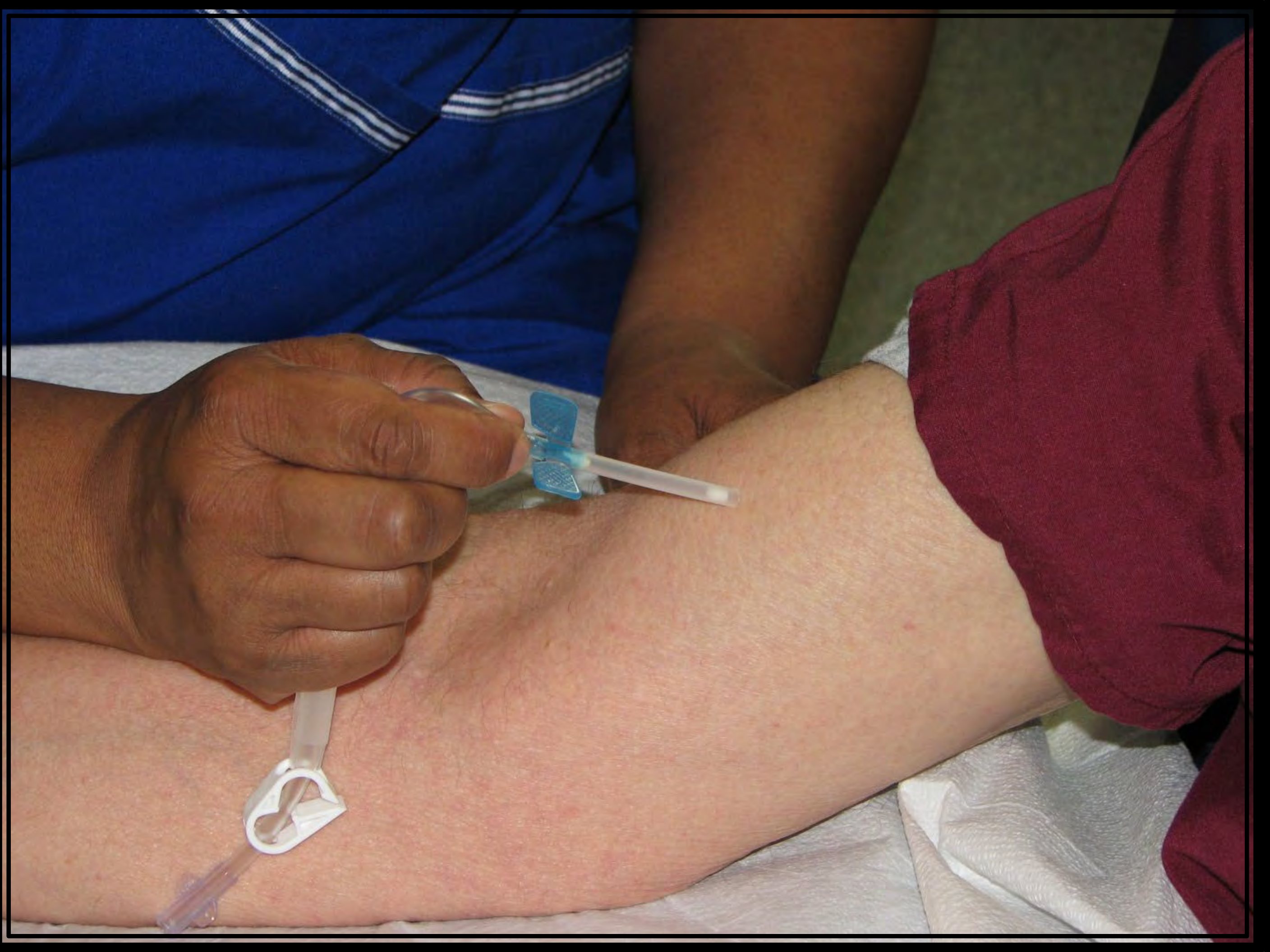
PATIENTS TAKES THEIR BUTTONHOLE
NEEDLE WITH THEM, HOME TO SHOW
THERE FAMILY AND Practiced



Show the
patient the
technique







Tandem hand



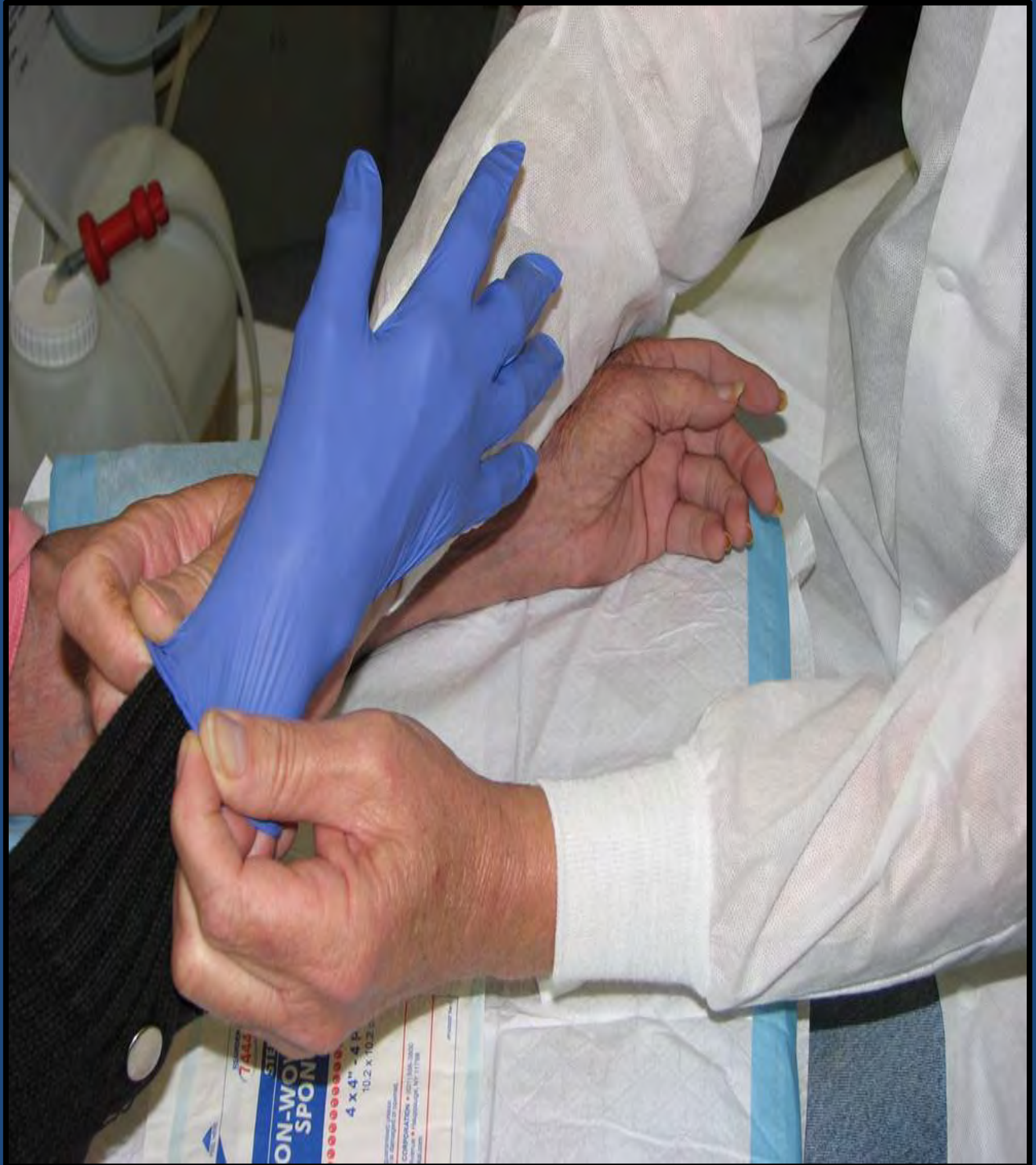
While training
your staff, the
staff trainee
member
squeezes your
fingers tightly



Wash hands
before each
treatment and
access



Put glove on
patient's
hand; pull it
back until it
snaps on



Prep the
site with
Betadine

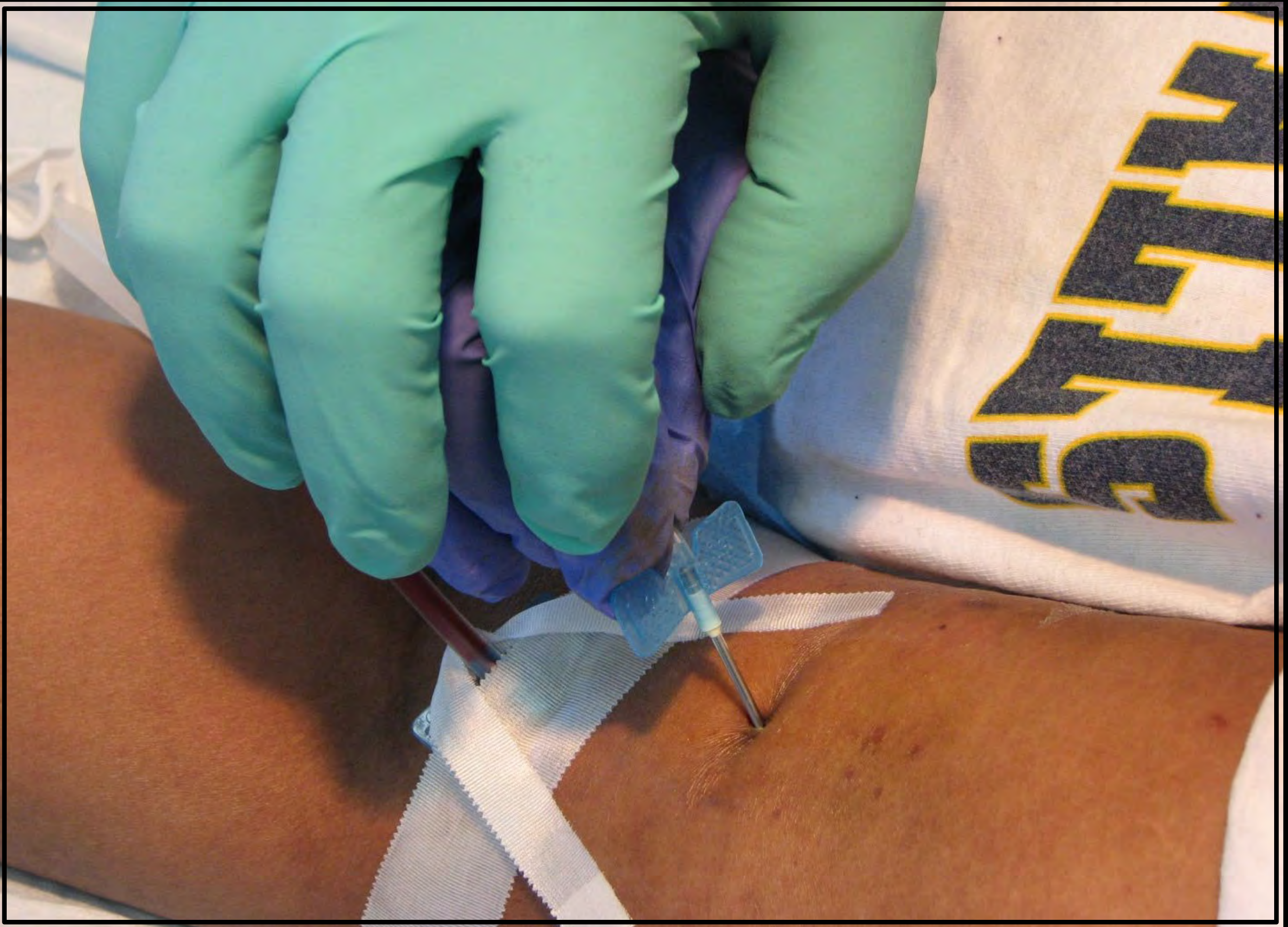


Start
of
Tandem
Hand



Phase 2: Hands on





Chapter 4

What First Time Cannulators need
Before we cannulated

1. Mapping of access
2. Ultrasound picture
3. Vessel wall thickness
4. Vein mapping

Cost of a AVF

Among patients with only a catheter at HD therapy initiation, only 54% of AVFs were successfully used for HD, 10% were used but experienced secondary patency loss within 1 year of creation, and 83% experienced primary patency loss within 1 year of creation. Mean vascular access costs per patient per year in the 2.5 years after AVF creation were \$7,871 for AVFs that maintained primary patency in year 1, \$13,282 for AVFs that experienced primary patency loss in year 1, \$17,808 for AVFs that experienced secondary patency loss in year 1, and \$31,630 for AVFs that were not used. Similar patterns were seen among patients with a mature AVF at HD therapy initiation and patients with a catheter and maturing AVF at HD therapy initiation. Overall, in 2013, fee-for-service Medicare paid \$2.8 billion for dialysis vascular access-related services, ~12% of all end-stage renal disease payments.

DIALYSIS ACCESS ULTRASOUND

PATIENT NAME _____

EXAM DATE _____ DAY NUMBER _____ ID NO _____

PATIENT LOCATION _____ SONOGRAPHER _____

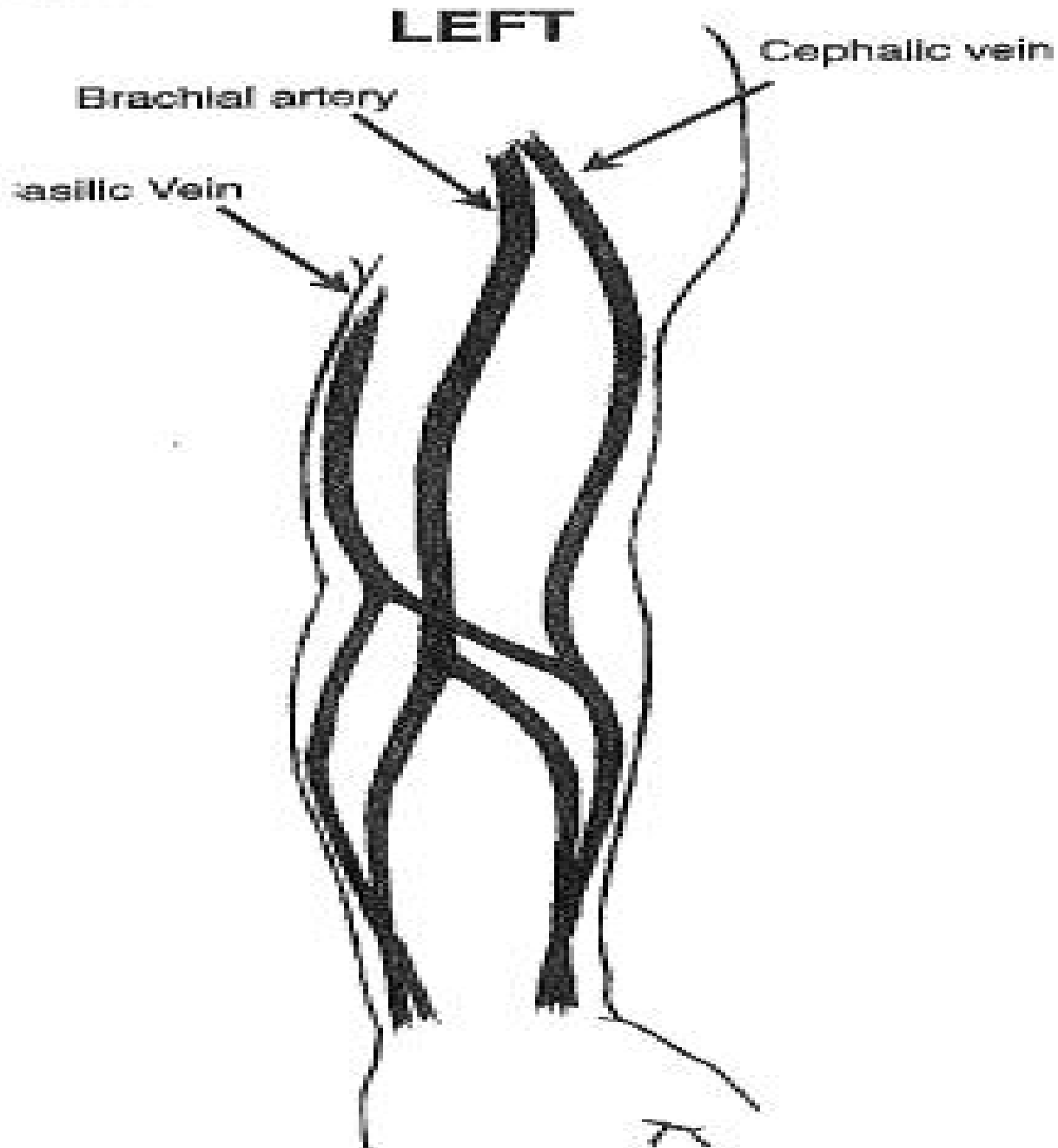
HISTORY / EXAM INDICATION _____

LEFT UPPER EXTREMITY DIALYSIS ACCESS

TYPE: NATIVE VEIN _____ GORETEX _____ HERO/OTHER _____

VESSELS INFLOW _____ OUTFLOW _____

Please annotate levels and distances. Draw fistula or grafts, stenoses, stents, other vein segments, branches etc.



		Velocities and diameter
A	Native inflow	
B	Inflow anastomosis	
C	Proximal fistula	
D	Mid fistula	
E	Distal fistula 1	
F	Distal fistula 2	
G	Outflow anastomosis (synthetic grafts)	
H	Distal outflow 3	
I	Distal outflow 4	

COMMENTS:



DIALYSIS ACCESS ULTRASOUND

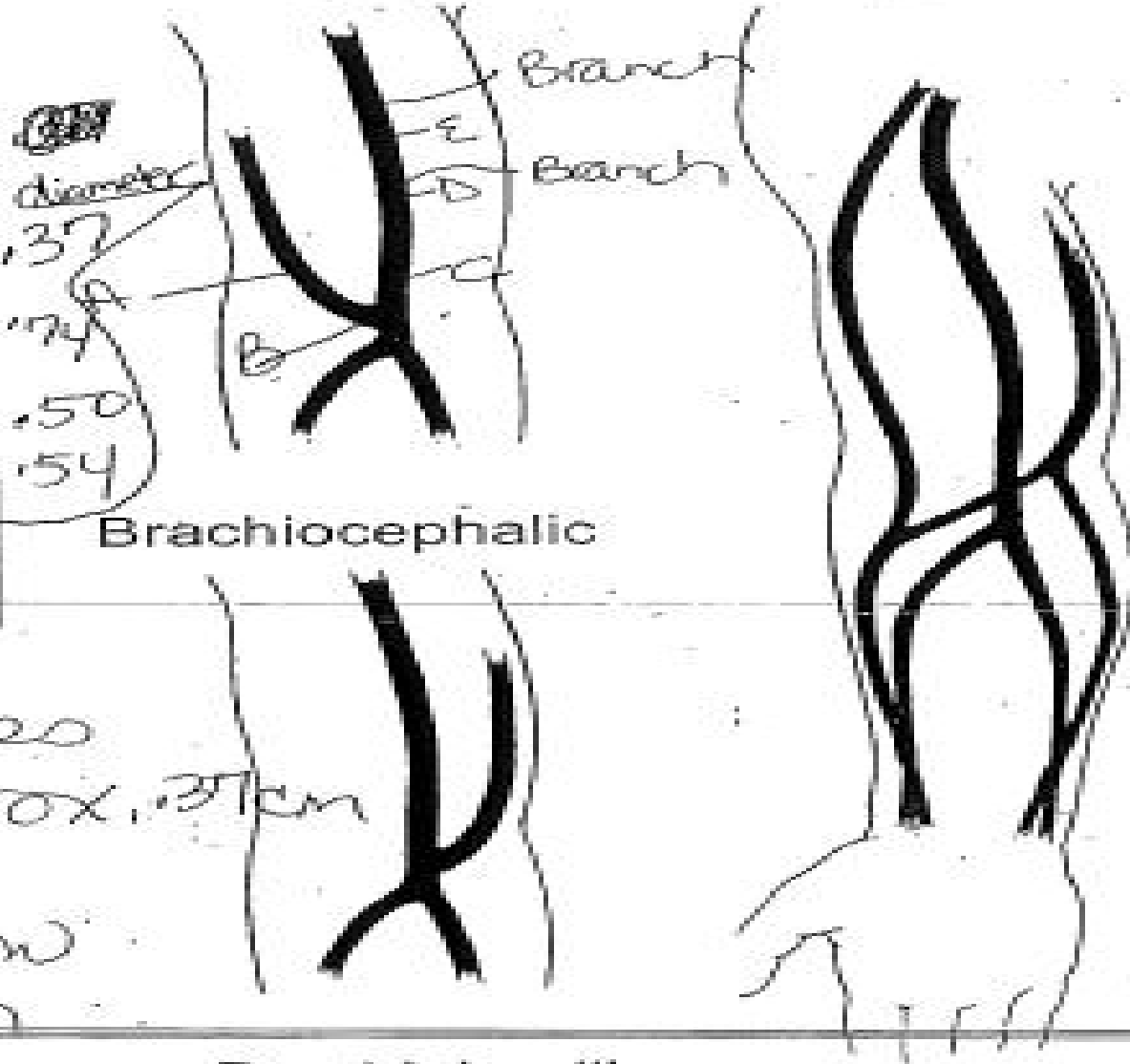
PATIENT NAME [REDACTED] EXAM DATE Feb DAY NUMBER 151
 ID NO [REDACTED] PATIENT LOCATION _____ SONOGRAPHER MK
 HISTORY / EXAM INDICATION New access ~~revision~~

RIGHT UPPER EXTREMITY DIALYSIS ACCESS

TYPE: NATIVE VEIN ~~GORETEX~~ GORETEX _____ HERO/OTHER _____
 VESSELS: INFLOW _____ OUTFLOW _____

Please label levels and draw additional veins or branches

Vessel Segment	Velocities and/or diameters
Native inflow	296 / 174
Inflow anastomosis	246 / 129
proximal fistula	319 / 190
mid fistula	164 / 68
distal fistula 1	246 / 129
distal fistula 2	
outflow anastomosis	107 / 71
distal outflow 3	130 / 81
distal outflow 4	

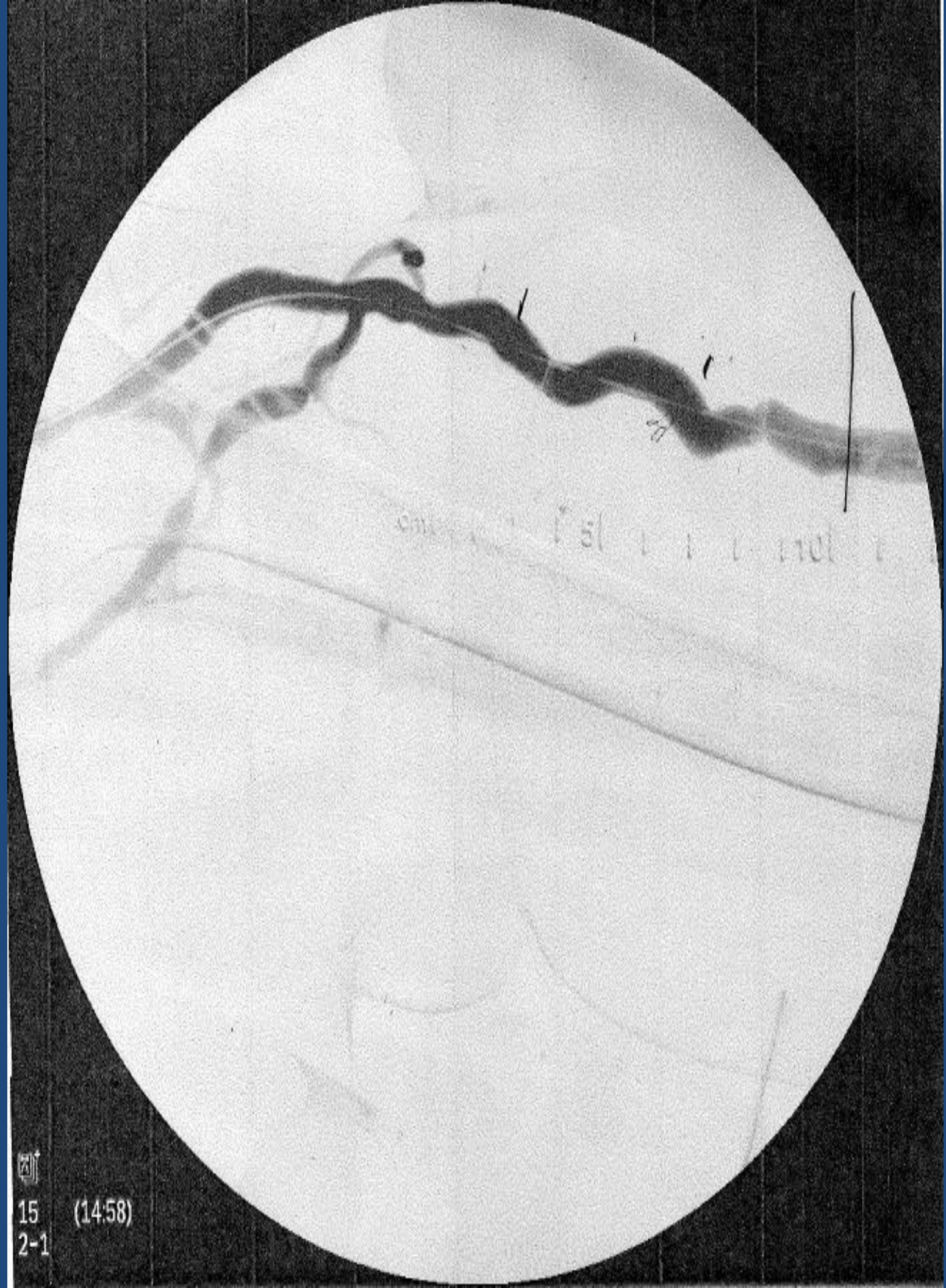


COMMENTS: ~~none~~
 webbing @ prox access
 @ small diameter @ prox. 3cm
 Access marked on
 skin / .50cm below
 arches mid + distal skin

Criteria for significant stenosis:
 Inflow anastomosis Ratio of anastomosis to inflow vessel
 (< 50% stenosis)
 Proximal fistula, Ratio of velocity at stenosis to velocity 2cm
 upstream (< 0.5 = 50% stenosis)

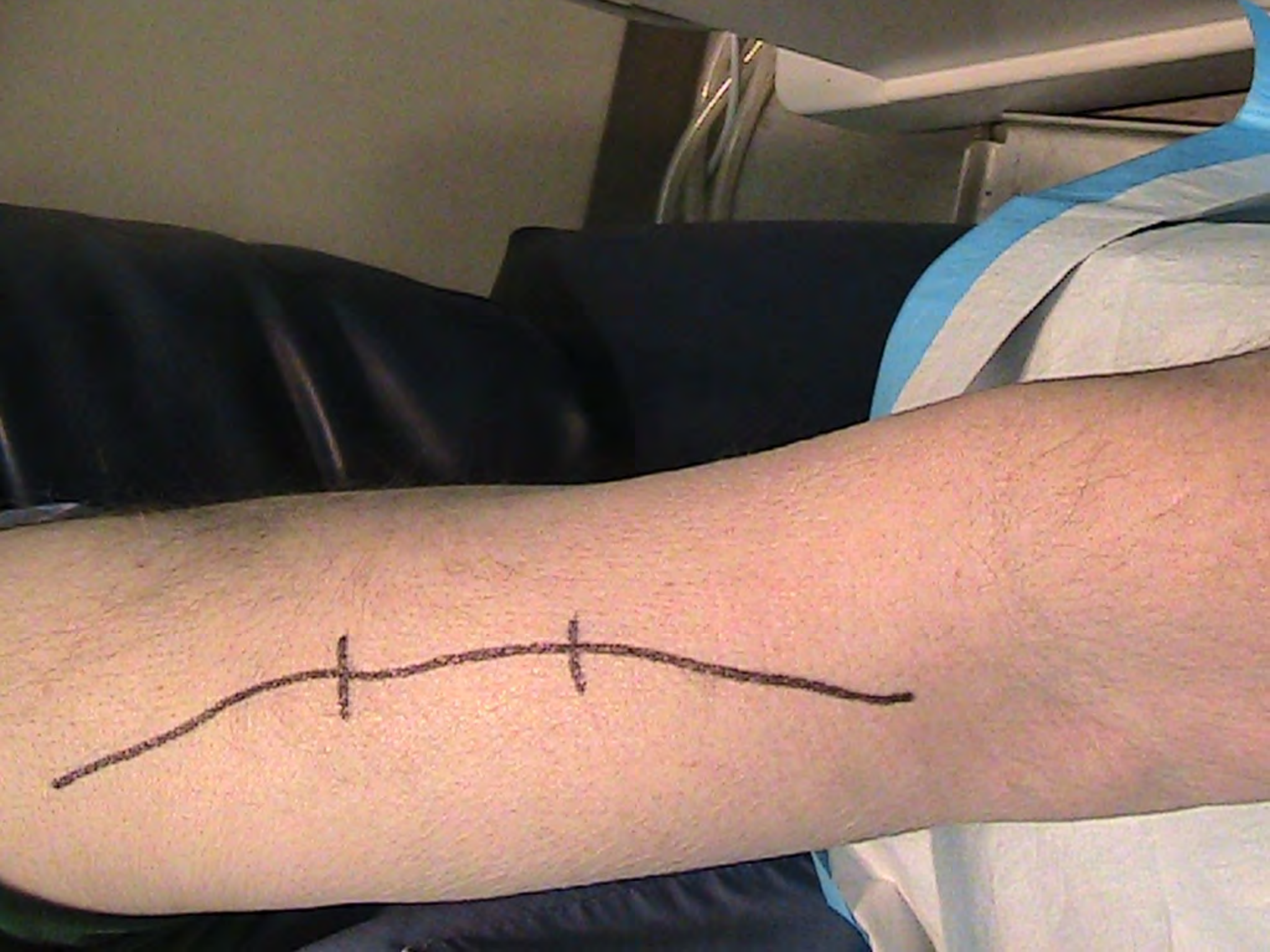
Physicians: Resident _____ Attending _____

Infiltration Concerns?









Home work assignment.

Set up a meeting with the surgeon's, ultrasound dept. Vascular Access coordinator tier one cannulator ,Nurse Manger and Nephrologist

Rule of 6s

These are all outer diameters--

17g 1.45 - 1.49 mm

16g 1.63 - 1.67 mm

15g 1.81 - 1.85 mm

14g 2.09 - 2.13 mm

We found that all fistula that did not blow had an Intima Media Thickness IMT measurement $>$ than **0.13 mm** , and we concluded that the evaluation of fistula wall thickness gives an added quantitative AVF vessel wall parameter that predicts cannulation readiness



Arteriovenous Fistulas for Hemodialysis:
Application of High-Frequency Us to Access
Vein Wall mapping for
Cannulation Readiness

Journal Radiology

Vol 26

Number 2

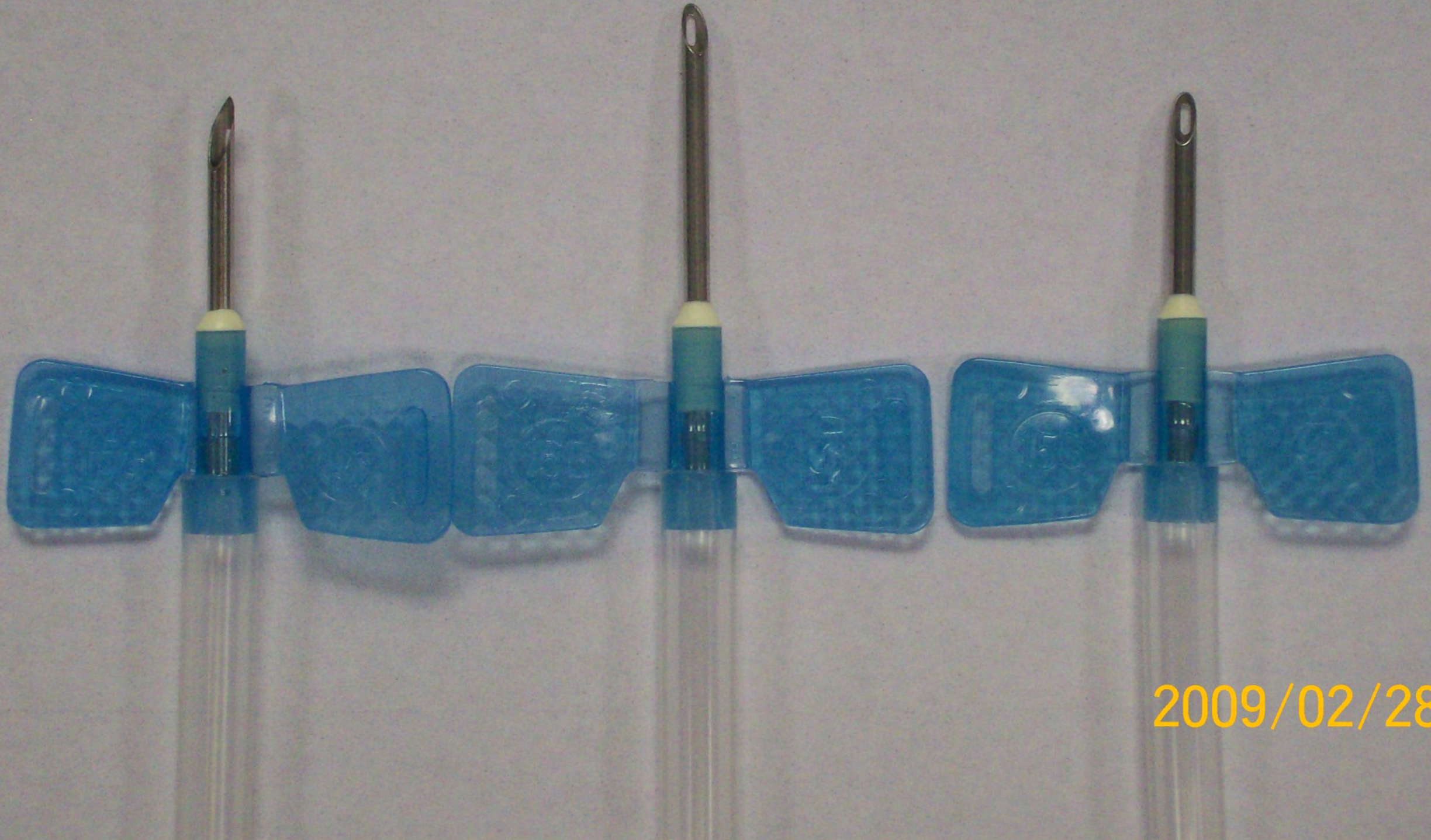
November 2011

The depth and diameter of the patient's access must be evaluated in order to choose the correct cannula length. Failure to use the correct cannula length may result in damage to the patient's access and /or injury to the patient

3/5
Sharp

1 Inch
Buttonhole

3/5
Buttonhole



2009/02/28

Harmony



Med-Systems



Chapter 5

Squeeze the Ball to
Replace the
Tourniquet

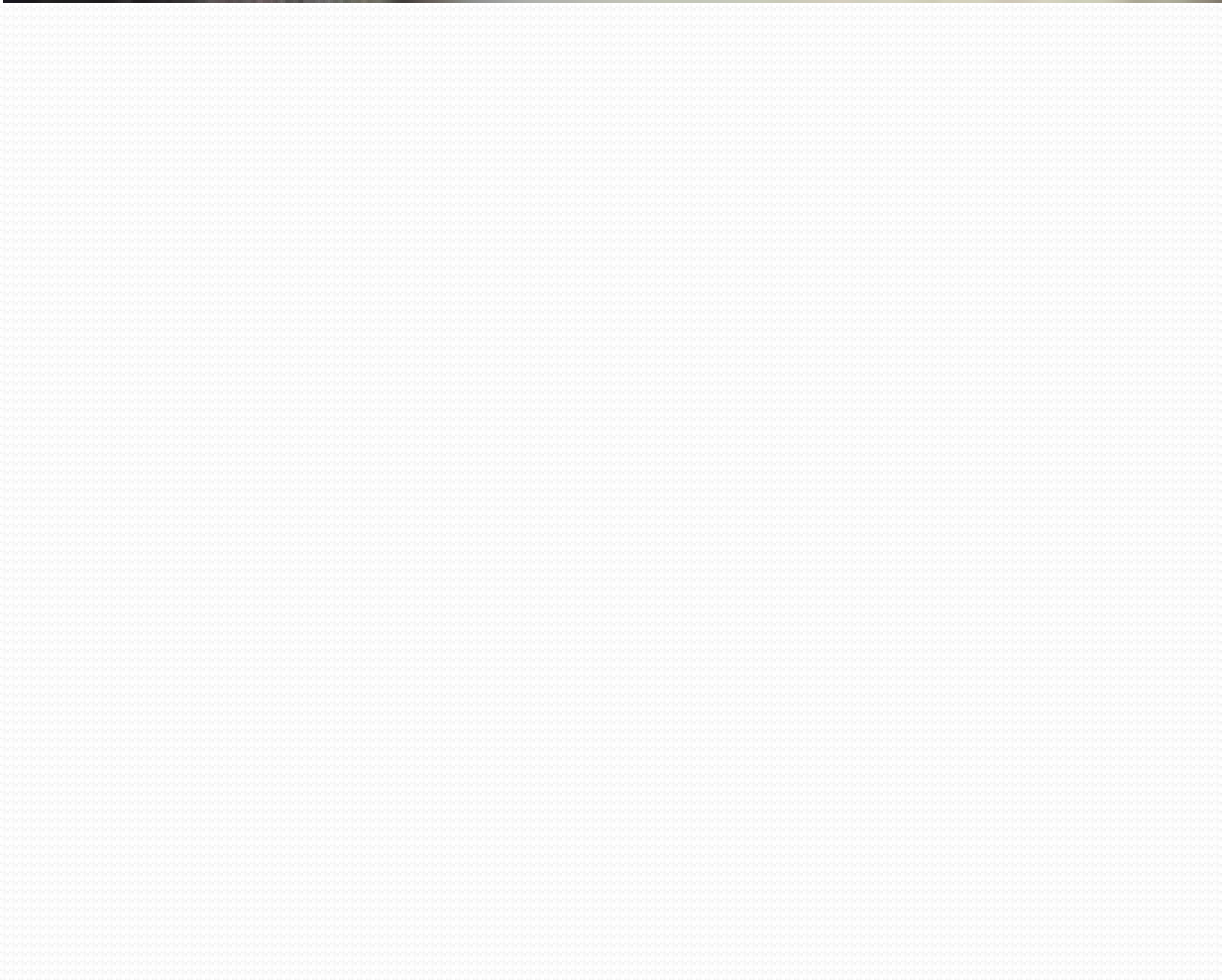
Squeeze the ball to replace a tourniquet












Background of Problem or Opportunity for Improvement: For end-stage renal disease (ESRD) patients undergoing hemodialysis **9 years of infection control of buttonholes infection using the scrubber**, infection of the arterio-venous access is the leading cause of access loss and the second leading cause of death in patients undergoing dialysis (Centers for Disease Control, 2011). Management of the arterio-venous access involves not only preparation of the site prior to cannulation, but evaluation and use of appropriate cannulation techniques. Selection of cannulation sites and determining the correct instruments to use are important aspects to consider.

Goals of the Project: To demonstrate that use of an exfoliating pad in combination with antimicrobial soap is an effective and safe method of cleaning and maintaining infection free buttonhole sites.

Approach or Interventions: An exfoliating pad with 1-2 drops of antimicrobial soap and water were used by the patient and/or staff preparing to cannulate buttonhole sites. Moderate pressure was utilized and the sites were scrubbed in a circular motion 9-12 times to remove dead skin, oil, and debrided the site of scab formation at the buttonhole site. The sites were then patted dry with clean paper towels and site disinfected with betadyne immediately prior to cannulation. After betadyne had dried, the cannulation needle sterile buttonhole pickers provided by the manufacturer were utilized to open the tunnel track and cannulate the access.

Outcomes: This practice was started in June 2009 until October of 2018 with only two patients and has proceeded with 24 patients over 9 year. To date there have **been 56,496** cannulation with no observed or reported buttonhole site infections and the tunnel tracks have maintained their integrity. This is with the help of Barwon health a health clinic off the University of Geelong Austral, thanks to the University of Indiana home department, started in 2009 and stop in 2015 due to patients noncompliance, Dialysis Clinic Columbia MO from 2009 until December 2012 in center, this is a on going study



Application in Clinical Practice: Infection control has been an ongoing problem since the implementation of buttonhole site cannulation and many dialysis centers have discontinued their use due to this issue. This project demonstrates that it is possible to maintain buttonhole sites and prevent infection with appropriate preparation of the cannulation sites.



The End



Questions?

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