

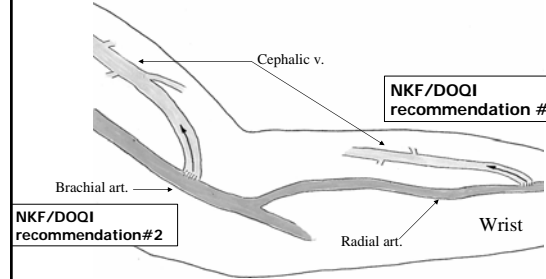


## Wrist (Cimino) and Brachial AVFs



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## Wrist (Cimino) and Brachial AV Fistulas



## Should we teach “Cimino First”?

- Yes, but.....
- AVF success by pre-operative ultrasound:
- 2.5-3.0 mm vein size at the wrist (by U/S)
- Open venous conduit through forearm (by U/S)
- Compressible / normal vein wall (by U/S)
- About 10% of AVF operations in my practice

### CHRONIC HEMODIALYSIS USING VENIPUNCTURE AND A SURGICALLY CREATED ARTERIOVENOUS FISTULA\*

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BRONX, NEW YORK

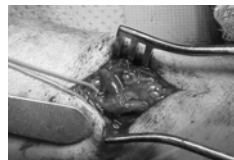
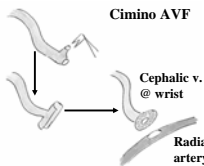
*Final Experience with the Use of Arteriovenous Fistulas with Frequent Venipuncture Technique for Chronic Hemodialysis in the Bronx Veterans Administration Hospital Dialysis Unit as of July 1, 1966.\**

Age	Diagnosis	Patents on Cimino Hemodialysis, no.	Days Fistula Closed, no.	Patents in Use, no.	Times Fistula Used, no.	Comments
54	Chronic pyelonephritis, chronic glomerulonephritis.	19	2/15/65	0	0	Fistula made too small & never functional
28	Chronic glomerulonephritis.	10	5/21/66	5-1/2	26	None
37	Chronic glomerulonephritis.	15-1/2	3/19/65	15-1/2	113	None (patient died - see text)
43	Chronic glomerulonephritis.	24	3/24/65	15-1/2	140	None
44	Chronic glomerulonephritis.	17	3/26/65	15	125	None
49	Chronic glomerulonephritis.	16	4/16/65	14-1/2	121	None
40	Chronic glomerulonephritis.	12-1/2	7/22/65	0	0	Arteriovenous fistula never functional
45	Chronic glomerulonephritis.	15-1/2	4/4/65	11	77	None
46	Polycystic renal disease.	10-1/2	3/27/65	10	48	None
43	Chronic glomerulonephritis.	14-1/2	3/10/65	10	64	None
46	Chronic glomerulonephritis.	19	3/24/66	3	30	None
49	Chronic glomerulonephritis.	13	3/21/66	3	26	None
37	Chronic glomerulonephritis.	1/2	4/26/66	1/2	2	None
45	Chronic glomerulonephritis.	1/2	4/21/66	1/2	2	None

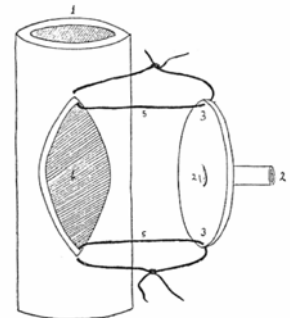
New England Journal of Medicine, Nov 17, 1966; 275(20) 1089-1092

## Successful Cimino AVF

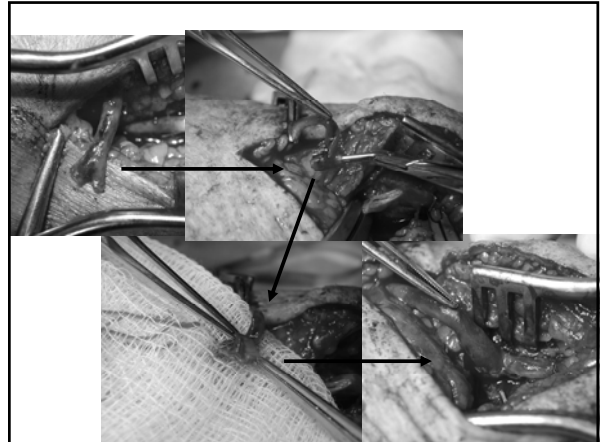
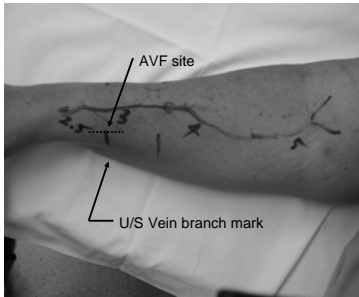
- US will find few acceptable inflow/outflow situations at the wrist. (about 10%)
- US identifies cephalic v. bifurcation at wrist
- Open vein bifurcation to make flair
- Fine suture / technique



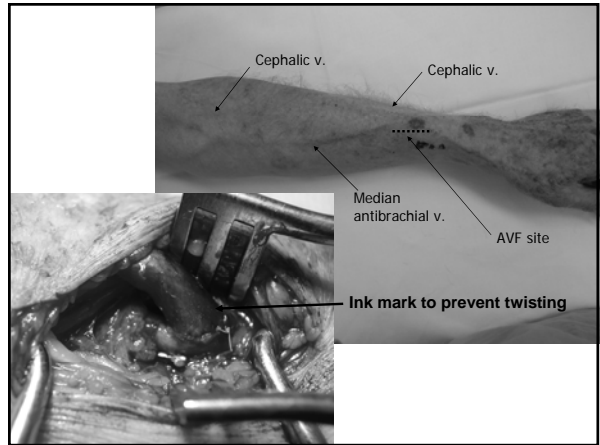
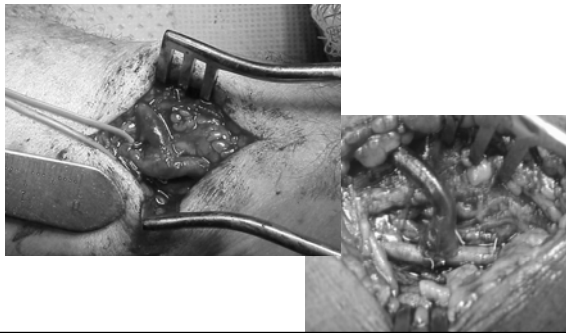
## Alexis Carrel (1873-1944)



## Cimino AVF



## Cimino AV Fistulas



### CREATING A-V FISTULAS IN MOST (ALL?) PATIENTS

September 10, 2004  
Tulsa, OK

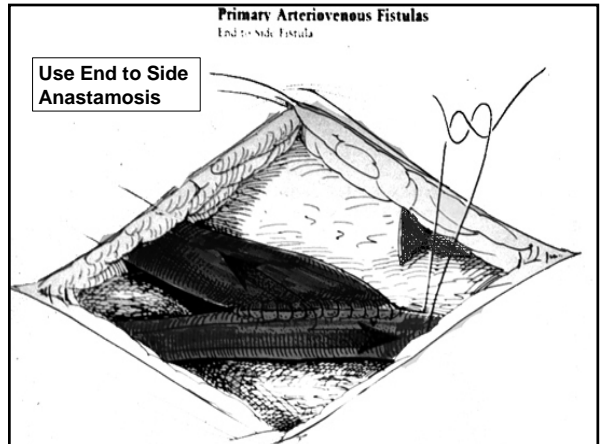
The University of Oklahoma College of Medicine,  
Tulsa

## Radio-cephalic and Brachio-cephalic AVF considerations

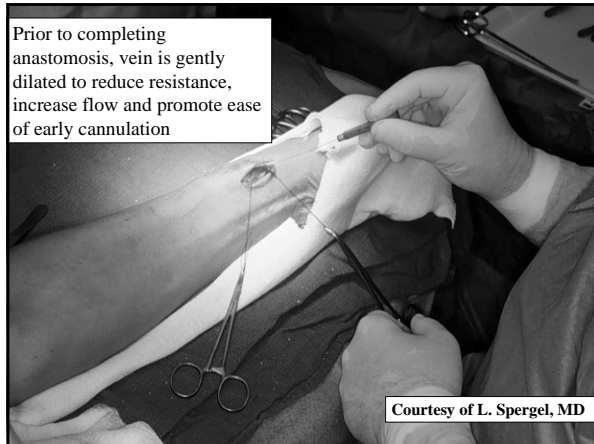
Lawrence M. Spergel, MD, FACS  
Clinical Chair, NVAII  
Director, Dialysis Management Medical Group  
San Francisco, California

### Primary Arteriovenous Fistulas End to Side Fistula

Use End to Side  
Anastomosis

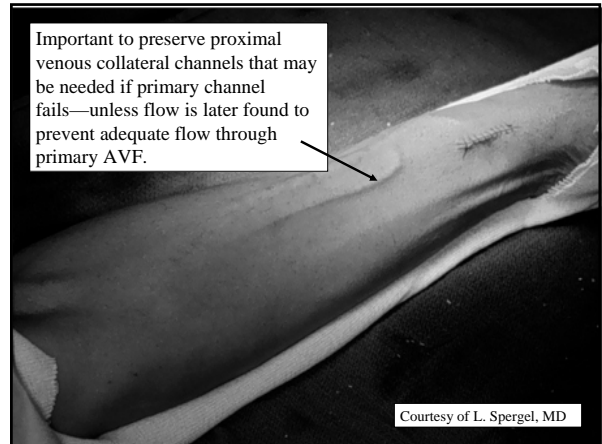


Prior to completing anastomosis, vein is gently dilated to reduce resistance, increase flow and promote ease of early cannulation



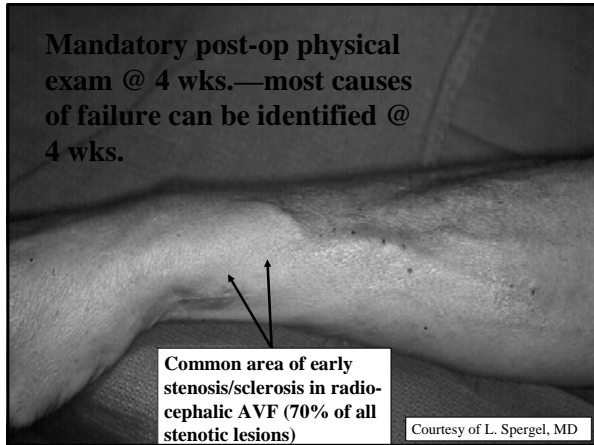
Courtesy of L. Spergel, MD

Important to preserve proximal venous collateral channels that may be needed if primary channel fails—unless flow is later found to prevent adequate flow through primary AVF.



Courtesy of L. Spergel, MD

**Mandatory post-op physical exam @ 4 wks.—most causes of failure can be identified @ 4 wks.**



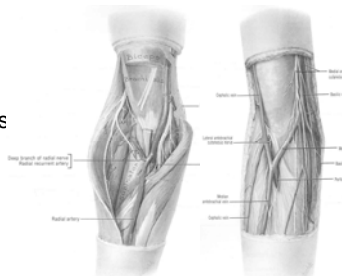
Common area of early stenosis/sclerosis in radio-cephalic AVF (70% of all stenotic lesions)

Courtesy of L. Spergel, MD

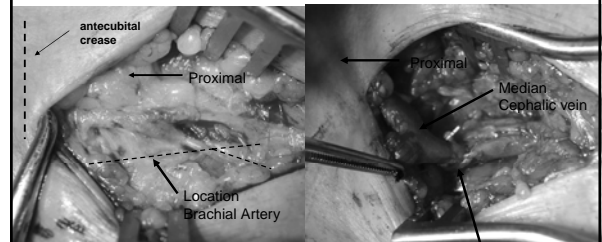
## Brachial Artery AV Fistulas

## Brachial AVF

- Dialysis in upper arm only
- Requires a normal median cephalic vein
- Some veins segments will not bridge to the brachial artery
- Steal risk (early and delayed)



## Brachial Artery AV Fistula



Completed end to side anastomosis

