



Buttonhole Use in HHD: The Procedure and Why

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DaVita.
AT HOME



Background

- Arterio-Venous (A-V) fistula use in hemodialysis is associated with improved morbidity and fewer hospitalizations
- Because of the need for frequent cannulation of the access, constant site cannulation (i.e., buttonhole) is re-emerging in popularity with frequent or daily hemodialysis patients
- Once cannulation tracks are formed, cannulation is less painful and the use of the "buttonhole" with a blunt needle prevents destruction of the fistula from needle infiltrations and "one-site-itis" with a sharp needle

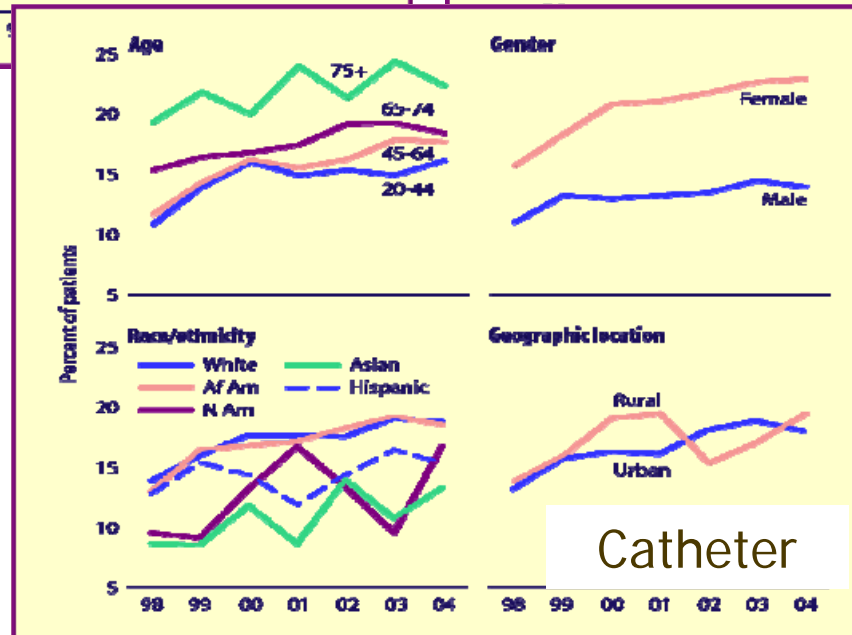
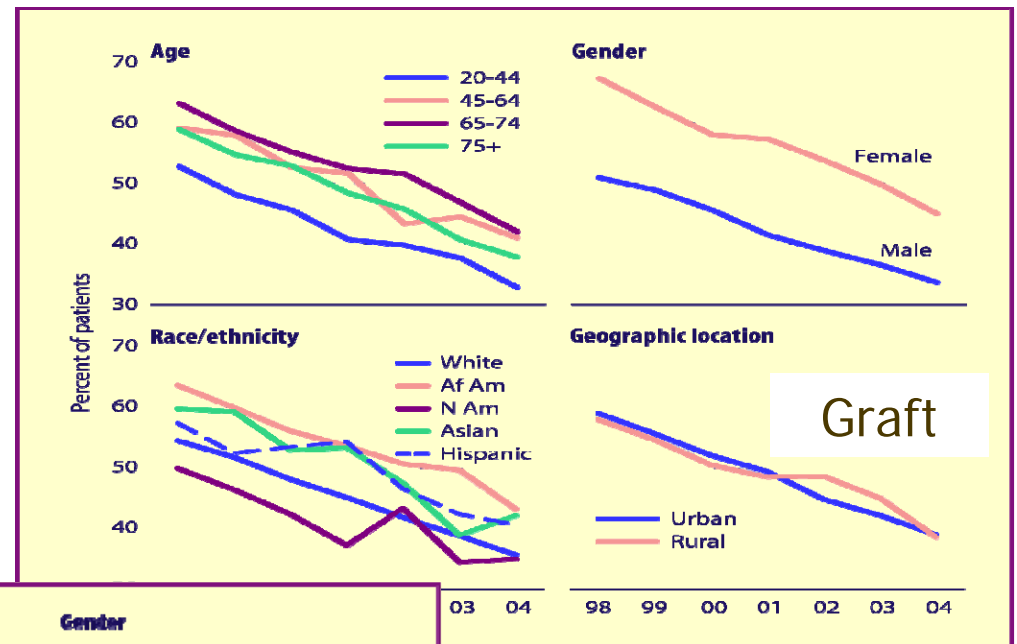
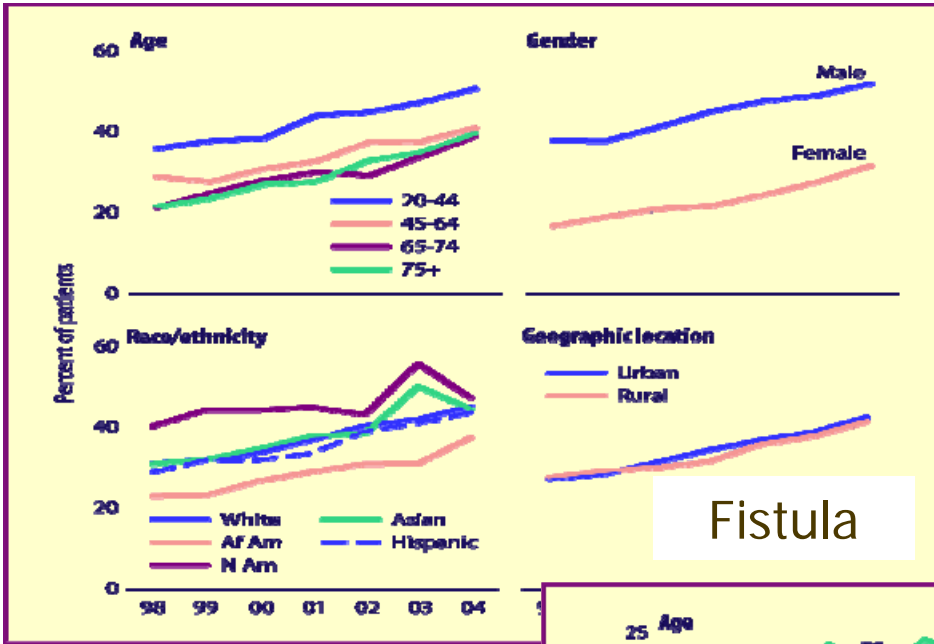


Fistula First

- Successful CMS Initiative
- CMS Stretch Goal – 66% Fistula use by June '09
- Fistula First reported 48.6% national fistula use December '07
- Fistula preservation is dependant upon vessel integrity, surgical technique and access cannulation



USRDS: Demographics





Current Study: Methodology

- Objective
 - To assess buttonhole frequency among patients dialyzing at home and determine if patients were not using buttonhole technique, why not?
- A cross-sectional survey was completed in September, 2007 by the training nurses of 121 DaVita at Home Programs
 - What type of access is being used for dialysis?
 - If not AVF, then is AVF developing?
 - Is a buttonhole being used?
 - If not, why not?

Access being
used for
dialysis *

IF not AVF is
AVF
developing

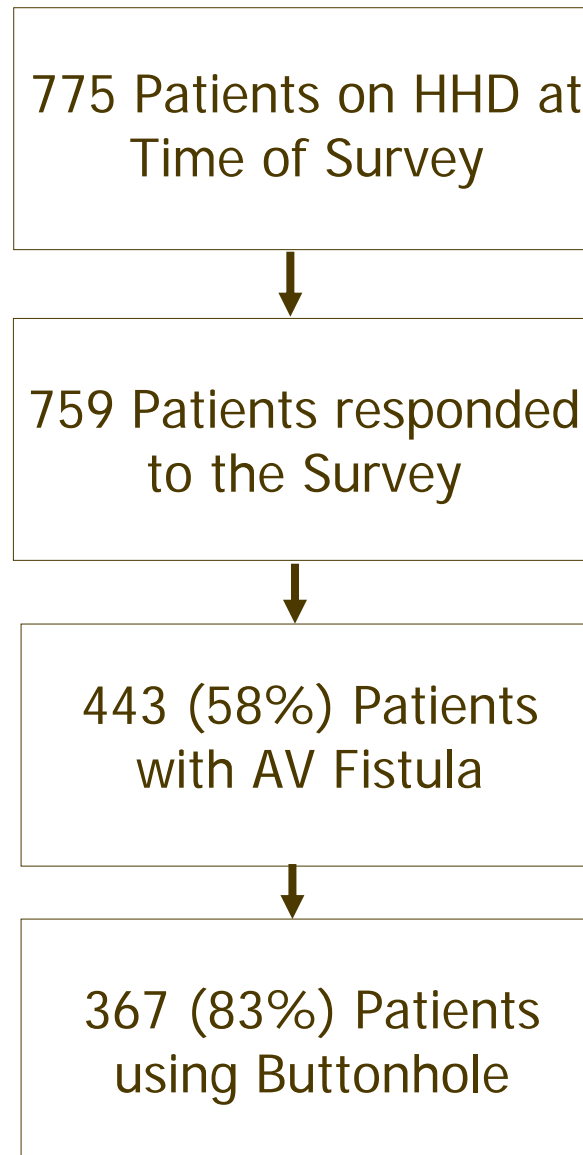
Buttonhole
(Y / N)

If not, why**

- 1=program does not offer
- 2=Teammates not familiar with technique
- 3=Fistula not compatible
- 4=Patient unable to learn
- 5=Patient declined
- 6=NA



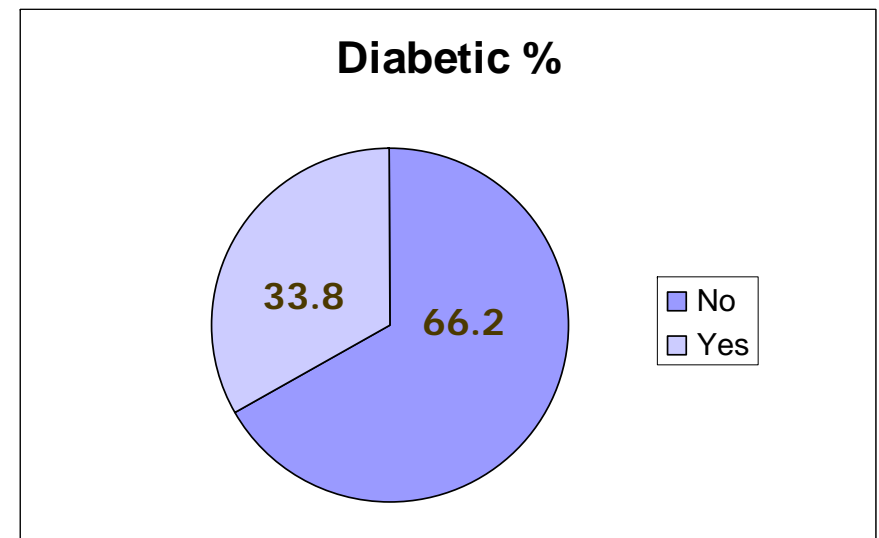
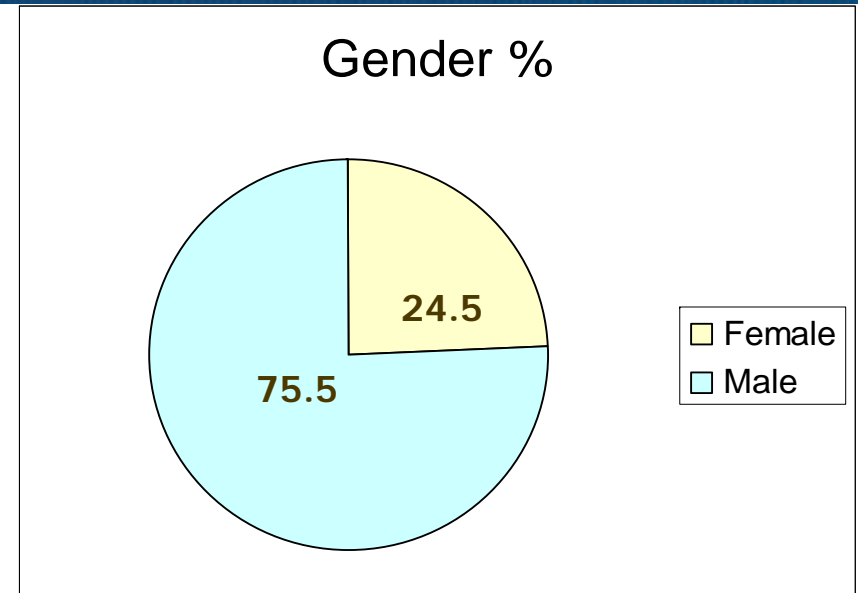
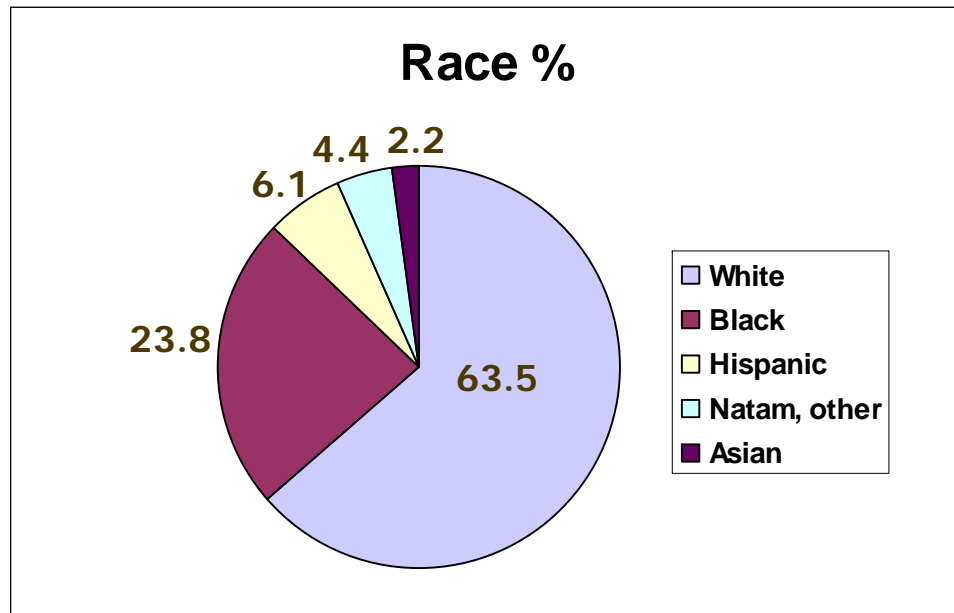
Patient Disposition: AV Fistula and Buttonhole Use



Demographics—Total Population

N=759

Age mean=56.9 (\pm 13.9)





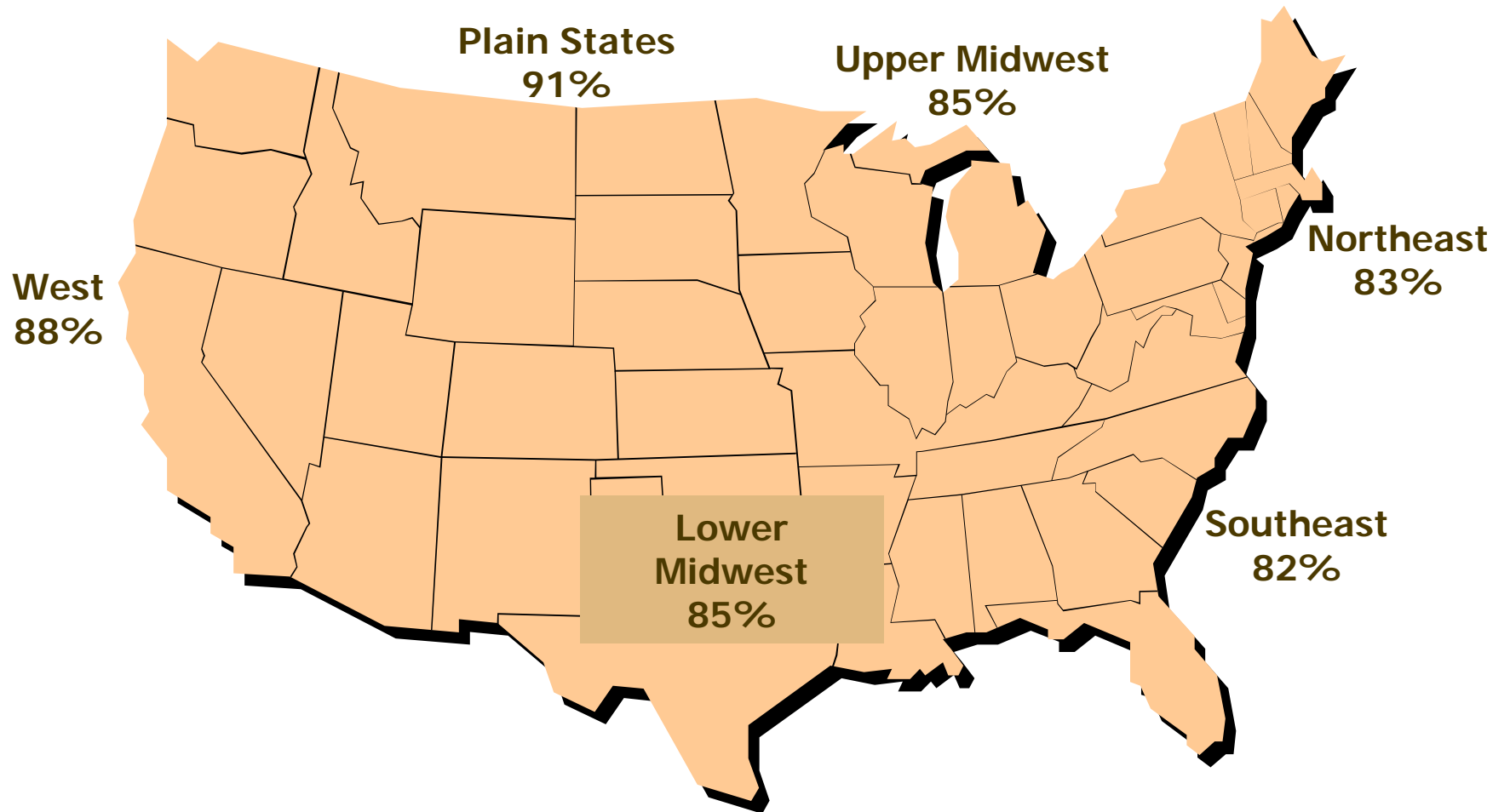
Demographics by Group

Characteristic	Buttonhole Users	Non-Buttonhole Users
N† (%)	347 (83.0)****	60 (17.0)****
Age mean (\pm SD)	57.1 (13.9)	55.6 (13.8)
Gender %		
Female	25.4	20.0
Male	74.6	80.0
Race %	**	**
White	65.4	15.7
Black	21.6	36.7
Hispanic	6.1	6.7
Natam,Other	4.9	1.7
Asian	2.0	3.3
Diabetic Status %	*	*
No	65.2	76.5
Yes	34.8	23.5

****Chi sq $p < 0.0001$, **Chi sq $p = 0.09$, *Chi sq $= 0.11$, †Effective N=407 (missing demography for 36 respondents).



Geoanalysis of Buttonhole Use





Reasons for patients not using buttonhole access

- 42 (10%) patients with a fistula declined
- 15 (3%) patients had fistulas that were not suitable
- 12 (3%) patients were not offered buttonhole cannulation because the nurse did not know the technique
- 4 (1%) patients not using buttonhole because their programs did not offer it for other reasons
 - Due in part to physician comfort with buttonhole technique



Conclusions

- Buttonhole technique is used in the majority of home hemodialysis patients
- Continual improvement and educational strategies will be required to ensure a systematic approach to fistula cannulation
- Further research is needed to ascertain the clinical outcomes associated with the use of this technique in a multi-center home hemodialysis cohort
 - Plan to refine survey to include infection rates and implement again in Q3, 2008

Acknowledgements

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