



Temporary Vascular Access Hemodialysis: Looking for New Solutions for the Known Problems

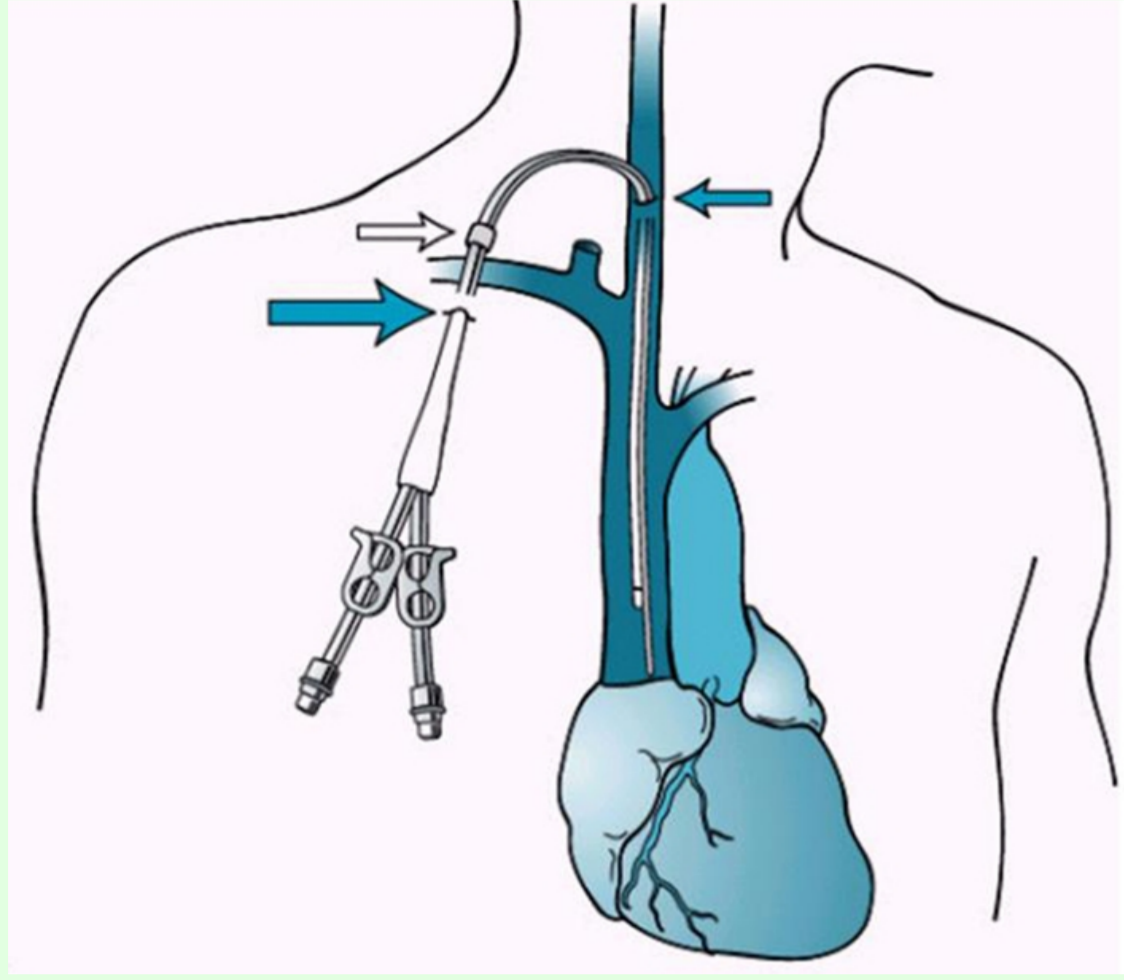
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Introduction

The study is Retrospective: data was collected from 01.01.2005 to 08.2008

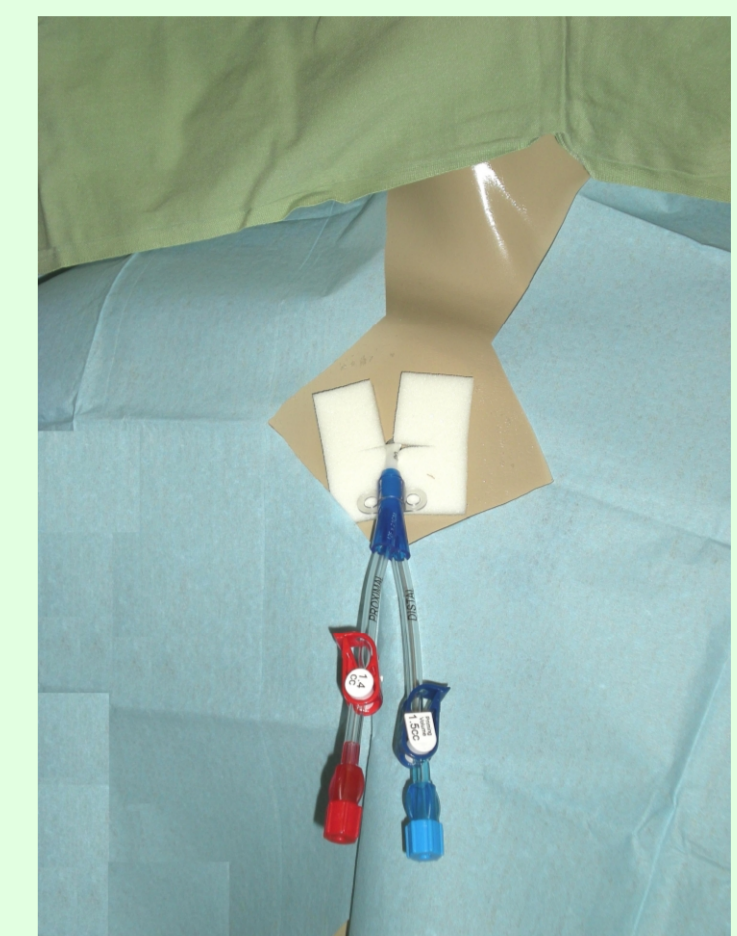
The use of central venous catheters (CVC) for chronic hemodialysis access is an ongoing phenomenon



Catheter-related infections can lead to extended hospital stays and greatly increased treatment costs. The infection may be localized at the catheter exit-site, in the subcutaneous tunnel or within the catheter lumen



The use of Silver impregnated dressings (Silvalpad) to the catheters' exit-site treatment was adopted in our department began 04.2006.



The purpose of the study:

to examine whether the use of the Silvalpad dressing is effective in the prevention of catheter exit-site infection, and have the effect on the catheter's duration use.

Methods:

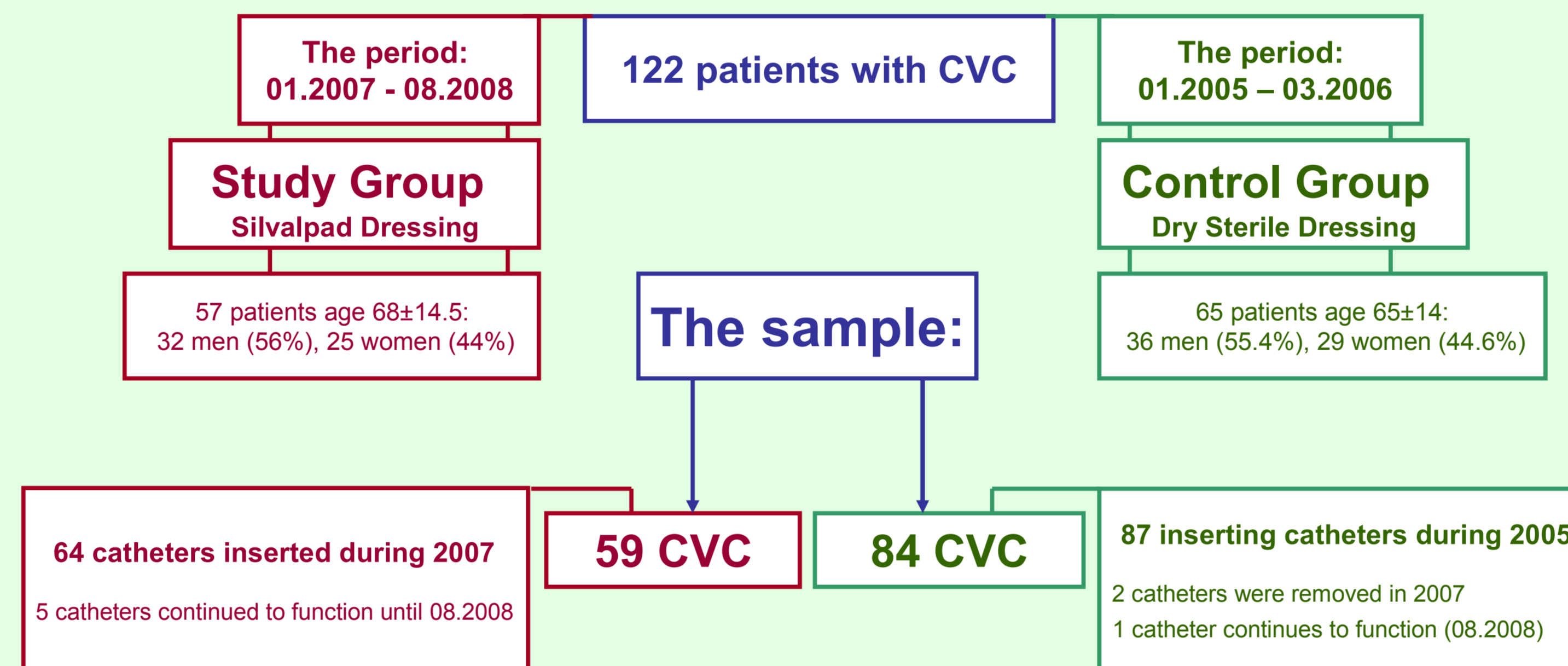
Inclusion Criteria:

- **Silvalpad Dressing Study Group** -- catheters that were inserted during 2007 and were removed until 08.2008
- **Control Group** -- catheters that were inserted during 2005 and were removed until 04.2006 (the exit-sites were treated by Dry Sterile Dressing)

Exclusion Criteria:

- Brief Catheter Duration (up to 7 days)
- Patient's relocation to other hemodialysis units
- Catheters that continue to function [not removed]

Study population:



The research tools:

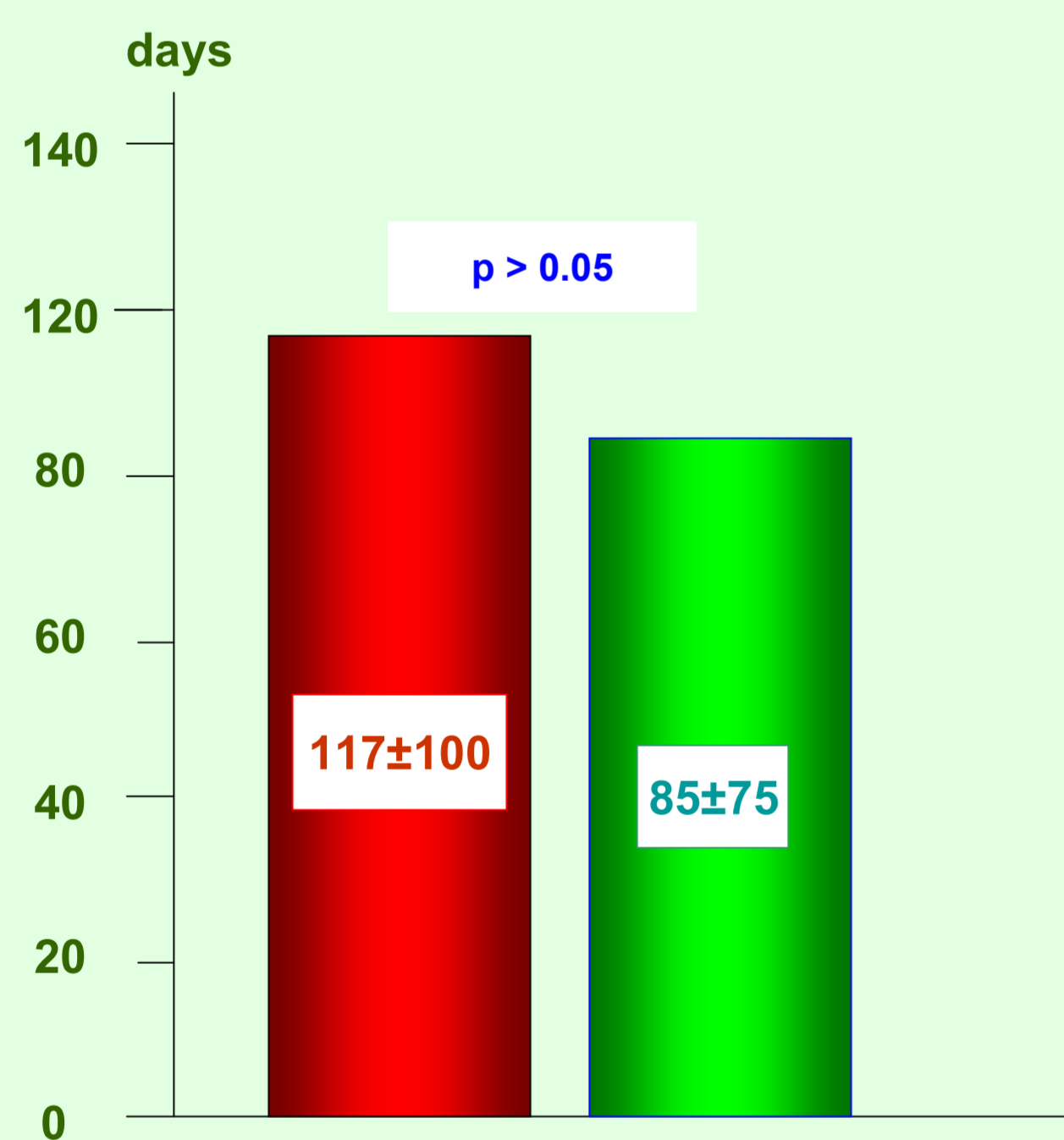
- The centralized listing of catheter's insertion and catheter's removal
- Documentation of catheter's removal causes
- Calculation of Silvalpad Dressing Efficacy in the preventing catheter's exit-site infection

Statistical analysis: ($\alpha = 0.05$)

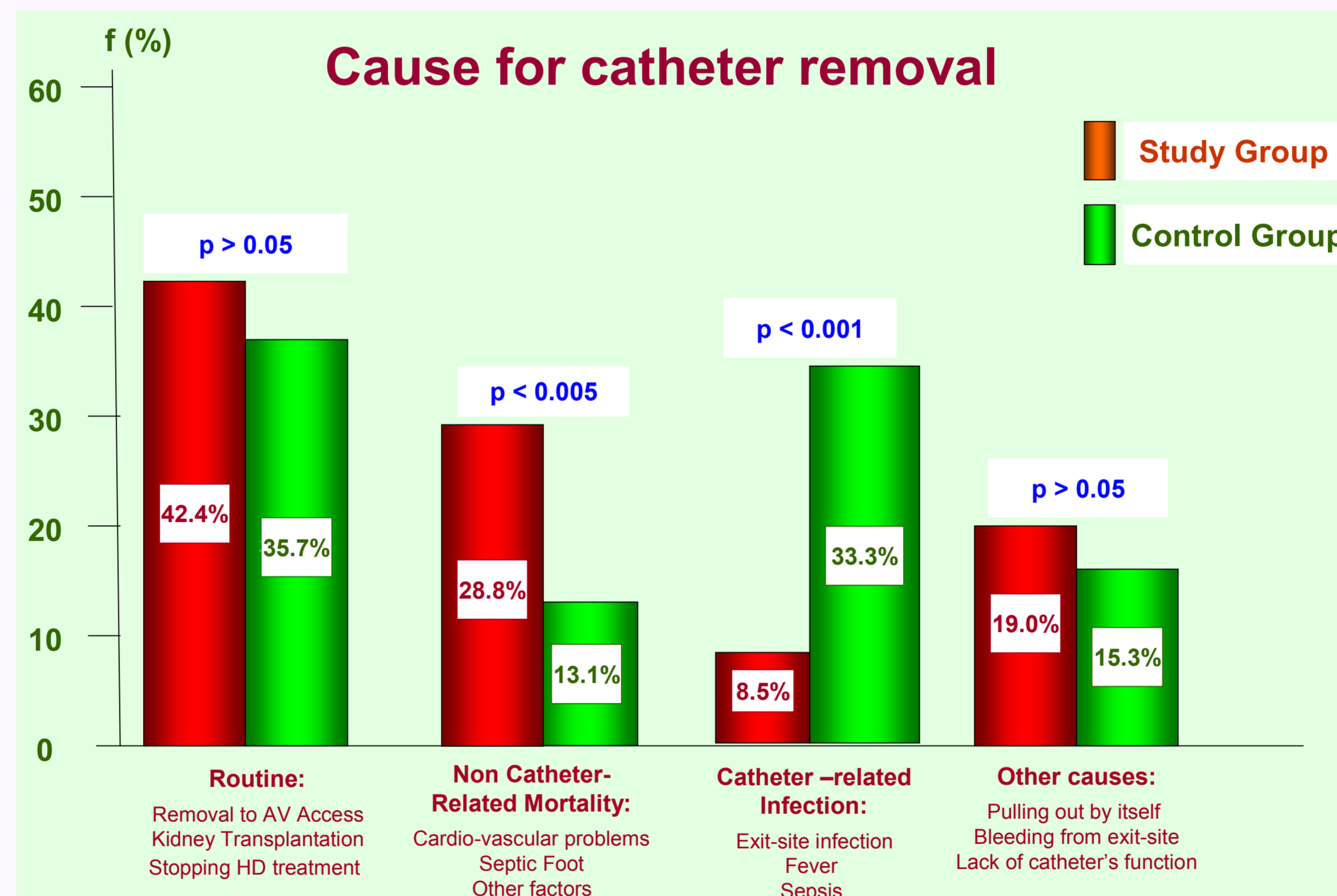
- T-test for comparison between groups' average catheter duration
- Relative size' comparison between Type of Dressing and Cause for Catheter removal

Results:

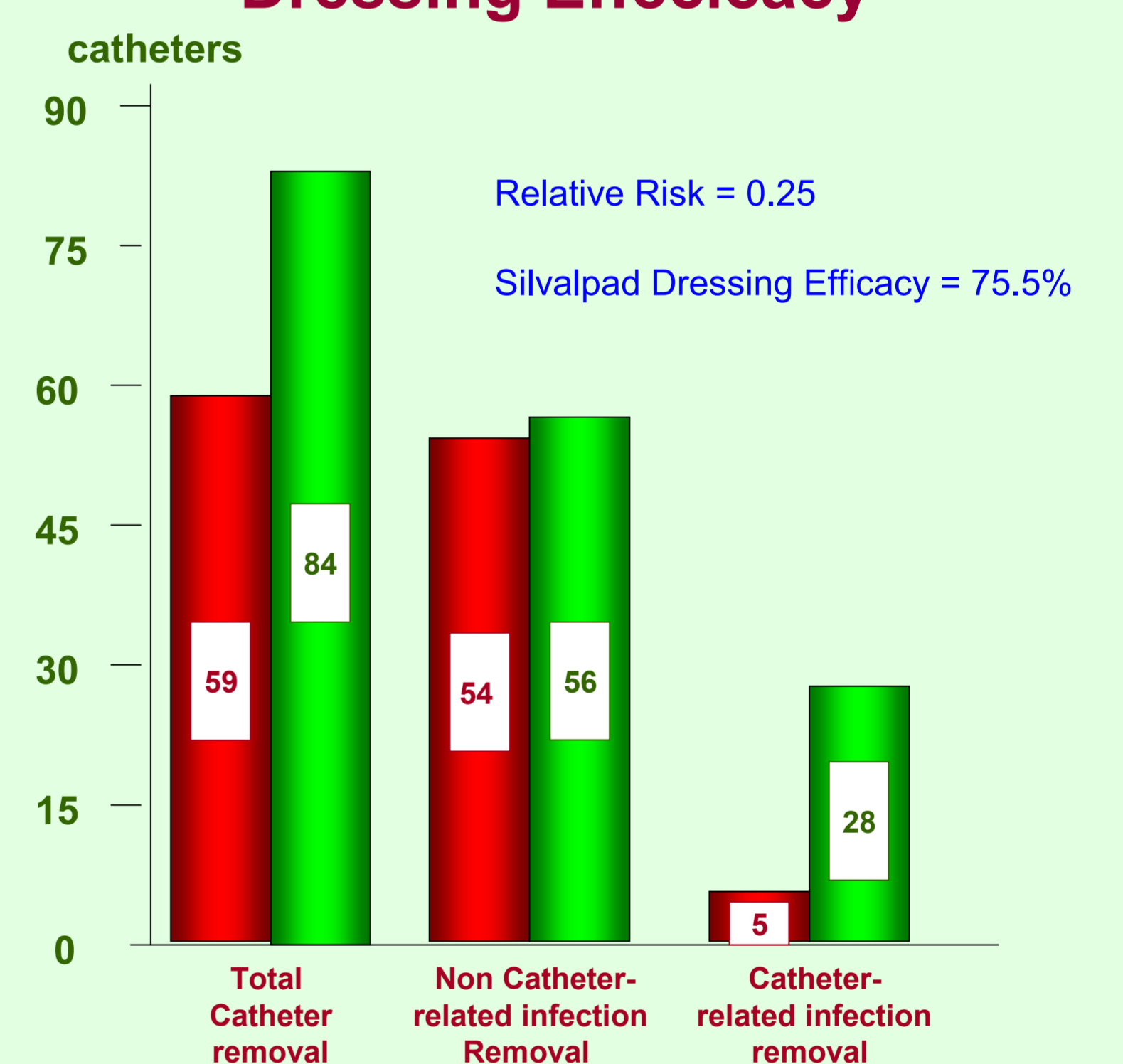
Catheter Duration



Cause for catheter removal

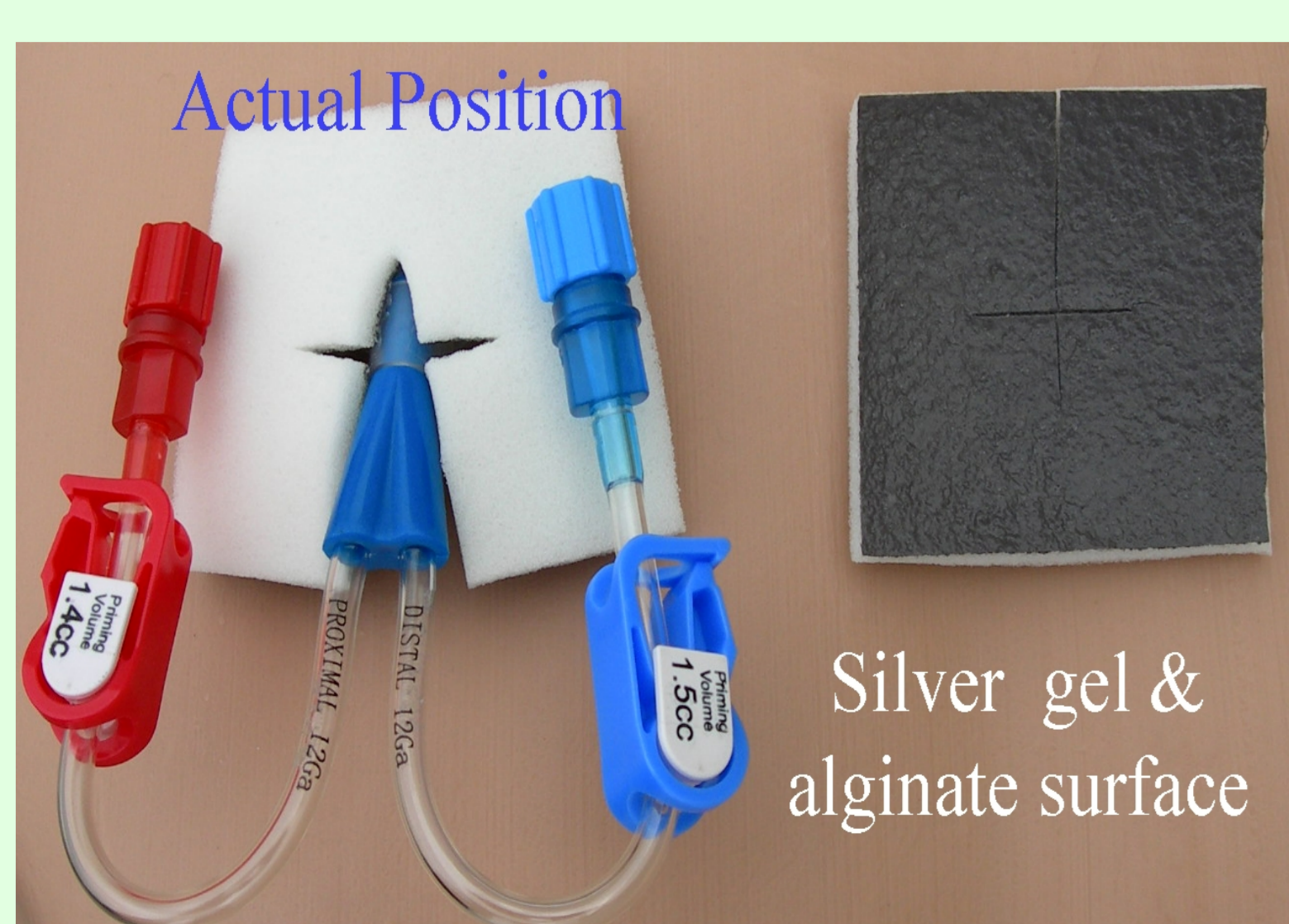


Dressing Efficacy



A Silvalpad Dressing

- Silver is re-emerging as a preferred antimicrobial in many infection control applications.
- The silver-impregnated surface of the dressing prevents bacterial growth while the foam surface of the dressing absorbs the moisture and secretions from the catheter exit-site.



Conclusion

In light of our finding we conclude:

- Catheter-related infection as cause for emergent catheter removal was significantly less in the Silvalpad Dressing Group compared to the Controls.
- Silvalpad has low relative risk to development exit-site infection compared to Dry Sterile Dressing. Silvalpad Dressing was highly effective in preventing exit-site catheter infection.
- The average age of the Study Group was higher than that of the Control Group. This may explain the higher NON-catheter-related-mortality in the Study Group compared to the Control Group.
- The use of Silvalpad Dressings did not correlate with the duration of catheter use. This might be explained by the fact that we excluded from our study all patients with catheters that continue to function.

We intend to continue in our studies of catheter-related infection in order to develop new treatment methods.

Recommendation for Practice

- Improper management of the catheter exit-site is one of the major reasons for the development of infection.
- Silvalpad dressing is part of our standard protocol for the care of dialysis catheters.
- The Silvalpad dressing is included in the sterile set for catheter exit-site treatment.
- Documentation of exit-site condition carried out before every hemodialysis treatment.

We recommend using the Silvalpad Dressing because it is a safe and easy way to prevent catheter-related infections.

