Project name: Renal Foot Care Program

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Background:

Hemodialysis patients have significant co-morbidities including diabetes, peripheral vascular disease, neuropathy and lower limb edema all of which can lead to serious lower extremity conditions. Foot ulcers, infections and wounds not only cause significant pain and distress but also lead to hospitalizations, amputations and even death.

These serious complications can be prevented if lower extremity disease is detected and treated early. Simple strategies such as proper foot and nail care, and increased awareness by health care providers have been shown to decrease amputation rates. [1,2] The Renal Foot Care Program aims to provide a streamline process for hemodialysis patients to receive timely care in both the prevention and treatment of lower extremity conditions.

Measures of success:

A retrospective chart review will be done at the start and end of the study (anticipated 1 year duration) measuring rates of the following:

1) Reduction in rates of lower limb amputations
2) Reduction in total hospitalized days per year
3) Reduction in overall mortality

The Renal Foot Care Program will be conducted at one pilot site first. The proposed site is ARH Hemodialysis unit.

Intervention:

Previous studies emphasize the importance of a multidisciplinary approach to preventing amputations in high-risk patients. Currently, hemodialysis patients face many barriers in accessing proper foot care. Additional costs for podiatrists pose as a financial burden. Podiatrist can prevent ulcer formation by removal of callus as well as providing proper footwear. Both of which are important in preventing complications.

Transportation is also a concern given the time and mobility constraints of our patients. We propose to bring community practitioners such as Podiatrists and Advanced Care NP into the dialysis unit and for them perform patient visits during dialysis sessions. This model has previously worked well in a quaternary dialysis center in Toronto, Ontario.

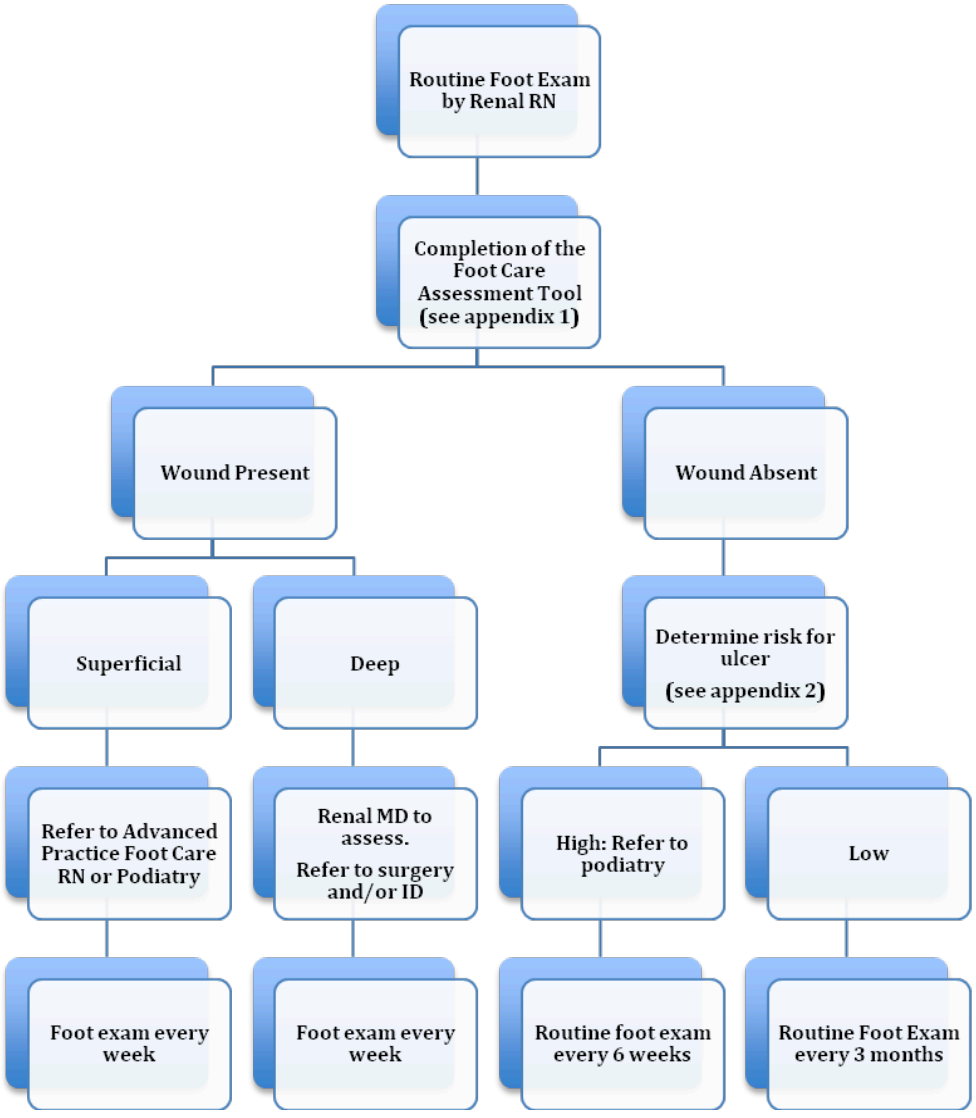
Timely referral structure will also be established with existing vascular surgeons and infectious disease specialists at FHA.

A proposed algorithm is outlined in Figure 1.

Summary:

The Renal Foot Care Program aims increase awareness of lower extremity conditions and to integrate foot care experts in the community with FHA physicians and resources to provide the best possible care for our patients.

Figure 1.


Routine Foot Exam by Renal RN
Completion of the Foot Care Assessment Tool (see appendix 1)
Wound Present
Wound Absent
Superficial
Deep
Determine risk for ulcer (see appendix 2)
Refer to Advanced Practice Foot Care RN or Podiatry
Renal MD to assess. Refer to surgery and/or ID
High: Refer to podiatry
Low
Foot exam every week
Foot exam every week
Routine foot exam every 6 weeks
Routine Foot Exam every 3 months

Forecasted Budget

This is based on approximately 100 in center patients currently at ARH hemodialysis unit with an estimated prevalence rate of 30% of patients having lower limb extremity disease.

Description of Service	**Cost**
Advanced Foot Care NP - 10 patient visits/ week @ $80/visit - assuming 10% rate of active wounds	$800/week X 52 = 41, 600
Podiatrist - 15 patient visits/week @ supplement cost of $50/visit (additional to billable items to MSP) - Assuming 50% of patient with lower extremity conditions need 1-2 weekly follow up	$750/week X 52 = 39, 000
Footwear (pressure booties, air casts, bandages) • Assuming all 30 patients would need some form of footwear modification at $400/patient	$400 X 30 = 12, 000
Unit Clerk or student for chart review • At $12/hr, 100 chart reviews at 2 time points. Approximately 40 hours estimated	$12 X 40 = 480

APPENDIX 1

Foot Care Assessment Tool:

PMH:

□ Amputation □ Ulcer □ Prior vascular surgery
□ Neuropathy

Inspection:

□ Ulcer □ Discoloured □ Infection
□ Dryness □ Deformity (calluses, hammer toes, bunions etc)

Palpation:

□ Normal Pulses : Right Left Both
□ Diminished Pulse: Right Left Both

Footwear:

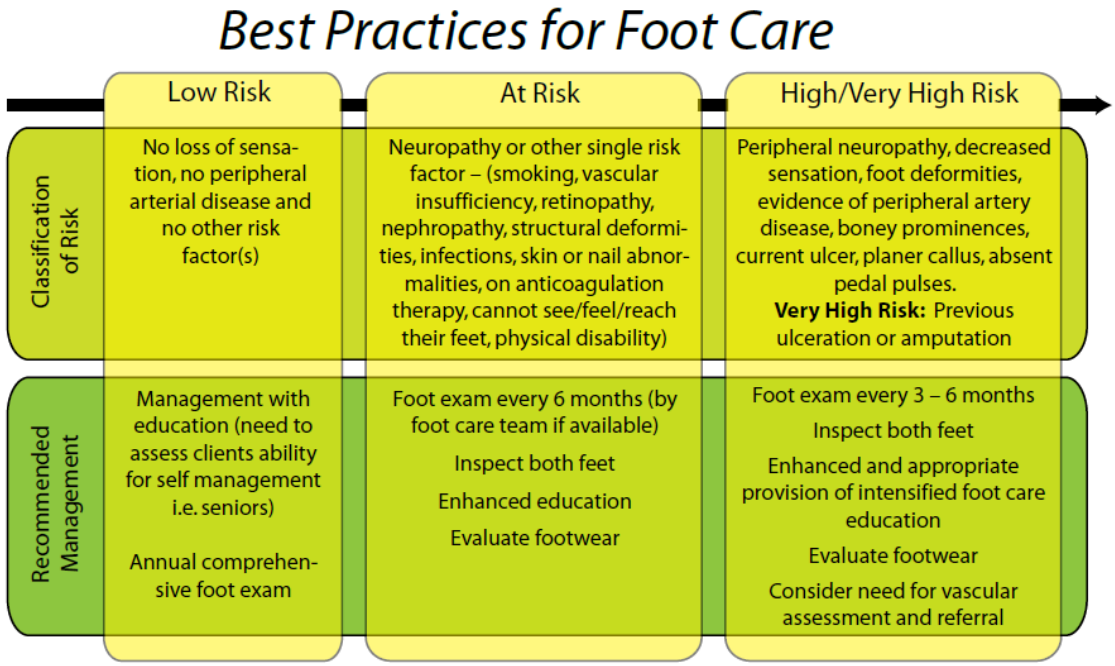
□ Appropriate
□ Inappropriate

Recommended Action:

Assessment	**Interpretation**	**Referral**	**Referral Time**	**Notify Renal MD**
Positive history of previous ulcer or amputation	High Risk for Lower Extremity Disease	Podiatrist	2-4 weeks	No
Inappropriate Footwear	High Risk for Lower Extremity Disease	Podiatrist	2-4 weeks	No
Wound indentified	Needs treatment to prevent complications	Advanced Care Foot Care RN and/or Vascular Surgery	1 week	Yes
Infection	Needs treatment to prevent complications	Infectious Disease if no immediate improvement	2 weeks	Yes
Diminished Pulses	Peripheral Vascular Disease leads to Lower Extremity complications	Vascular surgery if not previously assessed	2-4 weeks	Yes

APPENDIX 2

Diabetes Action Group Recommendations: Dec 2008



1. Etnyre et al. (2011). The Role of Certified Foot and Nail Care Nurses in the Prevention of Lower Extremity Amputation. *J Wound Ostomy Continence Nurs.* 38(3), 242-251

2.Alvarrson, A et al. (2012). A retrospective analysis of amputation rates in diabetic patients: can lower extremity amputations be further prevented? *Cardiovasc Diabetol. 2012; 11: 18.*