

High Risk Diabetic Foot Status is a Marker for Poor Glycemic Control

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AIM: To evaluate glycemic control of Guyanese persons with diabetes (**Guyana, South America**)

METHOD: Samples from consecutive patients having HbA1c testing at the Georgetown Public Hospital Corporation (GPHC) from April to December 2010 were studied. The samples were analysed using a high performance liquid chromatography method, accredited by the National Glycohaemoglobin Standardization Project, (D-10 Bio-Rad).

These are the first persons in Guyana to have HbA1c testing in the public health system. Only persons with diabetes were included. Results from patients referred from the Diabetic Foot Centre (DFC) were compared with those referred from other clinics/facilities.

RESULTS: The profiles of the first 678 consecutive persons with diabetes tested in the public health system are analysed. The statistical means, standard deviation, 95%CI and unpaired T Test are shown in **Table 1**.

Thirty-six per cent (36%) of those tested have HbA1c greater than 9%.

Forty-six per cent (46%) of patients referred from the Diabetic Foot Centre have HbA1c greater than 9%.

Table 1

Facility	Number	Mean HbA1c	St. Dev.	95%CI (+/-)	T-Test (unpaired)
Not DFC	402	7.89%	0.0278	0.0027	P<0.0001
DFC	276	9.11%	0.0302	0.0035	

CONCLUSIONS: The Diabetic Foot Centre is the clinic at GPHC which treats high risk diabetic foot and ulcer patients.

The mean HbA1c values in patients from DFC are 15.4% higher than in patients from other facilities. This difference is statistically significant (p<.0001). **High risk foot and ulcer patients have poorer glycemic control than other persons with diabetes.** Canadian Diabetes Association targets glycemic control at HbA1c < 7%¹. Interventions to reduce HbA1c < 9% are cost saving and highly feasible². Wound healing is impaired by poor glycemic control³. Therapies to improve glycemic control are warranted.

1. Canadian Diabetes Association Clinical Practice Guidelines Expert Committee. Clinical practice guidelines for the prevention and management of diabetes in Canada. Can J Diabetes. 2008;32(suppl 1):S20-S24

2. Narayan V, et al. Diabetes: The Pandemic and Potential Solutions. In: Jamieson D, et al., editors. Disease Control Priorities in Developing Countries. 2nd ed. Washington, DC: World Bank; 2006. p. 591-603.

3. Cook EA, Cook JJ, Henao M et al. The Importance of Sustained Glycemic Control during Wound Healing Abstract 189-OR ADA Annual Scientific Meeting 2010

http://professional.diabetes.org/Abstracts_Display.aspx?TYP=1&CID=79134 (accessed Dec 26, 2010)