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### **Niagara Foot: Boon to Landmine Survivors**

Life for many landmine survivors may have just gotten better, thanks to the Niagara Foot.

The prosthetic foot is a low-cost, high-performance energy-return foot which decreases the muscular effort required for walking and is extremely durable.

5 The Niagara Foot was developed as part of the landmine victims relief program of The Canadian Centre for Mine Action Technology (CCMAT) by Niagara Prosthetics & Orthotics Corporation, Saint Catharines, Ontario, and Queen's University, Kingston, Ontario. The injection-molded Niagara Foot uses Dupont Delrin, a special polyacetyl plastic that is unique in its combination of elasticity and toughness.

10 After extensive fatigue-testing of the foot at Queen's University, researchers began clinical trials on 15 volunteer subjects at Aranyaprathet Hospital in Thailand in November 2001 as collaboration between CCMAT, the Thailand Mine Action Center, and Queen's University. Subjects' ages ranged from 32 to 72; 13 were male and two were female. Twelve were landmine victims; two were injured by mortars; and one lost a limb due to infection.

15 The area is one of the most heavily mined in the world. Millions of landmines still in the ground in Cambodia testify to the horrors of the Cambodian war, which began in the early 1970s and ended in the late 1990s when the Khmer Rouge collapsed. The mine-infested terrain includes the Cambodia-Thailand border; even the Thai army laid landmines to prevent the conflict from crossing into Thailand.

20 "The Niagara Foot just keeps going and going," said Dave McCracken, a technical advisor for the Thailand Mine Action Committee, quoted in an article in the *Globe and Mail*, Toronto, January 2, 2003.

The foot's energy-return feature helps relieve pain and fatigue -- no small thing when daily work includes lugging heavy loads and performing agricultural work on rough, uneven terrain.

25 Cosmesis has been an issue. The stress of wearing a "strange-looking" space-age prosthesis has been alleviated by adding a life-like cover to the foot, the *Globe and Mail* article noted. Enabling the foot to fit better inside amputees' current footwear also is being addressed.

30 Although the Niagara Foot can be fitted to wooden systems, this should be avoided, since the force imposed by the foot on the connecting bolt assembly could cause the system to break, noted the Midterm Report, published October 18, 2002. The report urged careful consideration before retrofitting the foot to an older prosthesis.

As the foot continues being refined and tested in clinical trials, its promise of providing easier walking with less pain and fatigue, along with durability, continues to grow.

*Source: Adapted from Niagara Prosthesis and Orthotics Corporation. 2003.*

DIPLOMES DE TECHNICIEN PODO-ORTHESISTE & PROTHESISTE-ORTHESISTE			
SESSION JUIN 2006	Epreuve écrite E3 : ANGLAIS		
	Durée : 2 heures	Coefficient : 2	Page : 1/2

## TRAVAIL A FAIRE PAR LE CANDIDAT

### I. Répondez en français aux questions suivantes :

- 1) Citez trois avantages de la prothèse Niagara Foot. (3 points)
- 2) Quelles sont les premières personnes à avoir bénéficié de cette prothèse ? (3 points)
- 3) Quel âge avaient les volontaires lors des essais cliniques ? (1 point)
- 4) Quel est le matériau utilisé pour cette prothèse ? (1 point)
- 5) Où ces essais ont-ils eu lieu ? Pourquoi cette région a-t-elle été choisie? (2 points)
- 6) Quel est l'inconvénient de cette prothèse ? (1 point)
- 7) Quelle solution a été apportée pour y remédier ? (1 point)

### II. Remplacez les notions indiquées entre parenthèses par l'auxiliaire de mode qui convient. (3 points)

- 1) Fitting the Niagara foot to wooden systems (conseil) be avoided because it (possibilité) cause the system to break.
- 2) Thanks to the Niagara foot, landmine survivors (probabilité) have an improved life.

### III. Ecrivez les phrases suivantes en utilisant le comparatif (supériorité ou infériorité en fonction du sens). (1 point)

Thanks to the Niagara Foot walking will be (easy) for the victims and their lives will be (stressful).

### IV. Writing in English. (4 points)

A forty-year-old farmer became a landmine victim five years ago. First he wore a handmade wooden prosthesis and then, in 2003, he was fitted with a Niagara foot.

A journalist from the Globe and Mail interviews him to know more about his experience. Write the interview in English. (80 words).

3- Indiquer 2 conséquences possibles de l'arrêt de ce salarié pour l'entreprise « CAVERA ».

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4- Dans l'entreprise « CAVERA », plusieurs salariés sont en arrêt de travail pour TMS. Proposer 3 mesures de prévention qui pourraient être appliquées dans cette entreprise.

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### III – SECOURISME (6.5 points)

Lors de la réalisation de l'appareillage de jambe dans l'atelier, un collègue de P. Durand se blesse à la main avec un outil tranchant qu'il jette ensuite au sol. Il saigne abondamment et la blessure mesure à peu près un centimètre. Patrick Durant est SST (Sauveteur Secouriste du Travail). Il y a des collègues témoins.

1-Nommer et justifier la première action du SST.

2 – Expliquer et justifier le geste de secours à effectuer par Patrick le SST.

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3 Préciser 4 éléments du message d'alerte transmis par Patrick SST.

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4- Indiquer ce que Patrick SST doit faire en attendant les secours.

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