



# Juven<sup>®</sup>: Rebuild. Recover. Heal.

## Actual Case Study—Diabetic Foot Ulcer

Mr. S is a 62-year-old man with a 20-year history of diabetes mellitus. He blames the skin crack that developed on the bottom of his foot (January 2007) on the winter cold, inside heated air and the resulting low humidity. Tissue around the lesion became inflamed and necrotic and had to be debrided four weeks later. In spite of treatment, the ulcer worsened and Mr. S developed osteomyelitis. He was treated with IV antibiotics for the next nine months.



**Photo #1**  
August 2007: Wound was surgically debrided to encourage healing

Seven months after the first debridement (August 2007), the wound care team determined that the foot ulcer required surgical debridement. The resulting wound measured 2.5 inches (L) x 2 inches (W) and was 1 inch deep. (see photo #1)

Mr. S was directed to clean the wound and change the dressing daily, take an oral antibiotic (levofloxacin) and follow his recommended diet. In spite of good home care and adequate nutrition, his blood glucose levels were elevated and he required more insulin than usual.

Because of the osteomyelitis, poor circulation and the condition of the ulcer, a consulting surgeon recommended a below the knee amputation. His wound care team also recommended hyperbaric oxygen therapy.

Beginning in October 2007, after talking with his doctor, Mr. S added 2 packets of Juven<sup>®</sup> to his daily diet and continued for the next two months. Typically he mixed one pack of Juven powder with 8 to 10 fl oz of water, although Juven can also be mixed with fruit juice. He had one serving of Juven at 7:30 AM and another at 6:30 PM.

Juven is compatible with carbohydrate-controlled diets. Juven contains 7 grams of carbohydrates and, depending on the flavor, 1 to 2 grams of sugar per serving. For those using the exchange system of meal planning, Juven provides 1/2 starch exchange. For those using the carbohydrate choice method of meal planning, Juven provides 1/2 carbohydrate choice.

After two weeks of taking Juven with his regular diet, Mr. S noticed that his foot ulcer appeared to be healing (see photo #2). Mr. S continued to take Juven for 6 weeks.

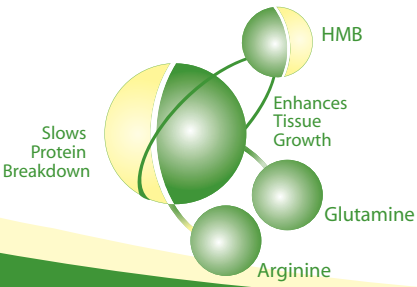
When Mr. S returned to the wound care center for follow up (December 2007), the wound had closed, and the ulcer surface has diminished to 1.5 inches (L) x 0.5 inch (W). (see photo #3) The wound care team decided that, because of the degree of healing, neither surgery nor hyperbaric therapy was required.



**Photo #2**  
October 2007:  
2 weeks after  
Juven initiation,  
signs of healing  
at the wound site  
were noticed



**Photo #3**  
After a total of three and a half months on Juven, the wound was nearly closed



Use under medical supervision



# Only Juven is formulated with three ingredients that work together to deliver wound healing power:

## HMB\* The Protein Protector

- Enhances protein production and protects protein from breakdown,<sup>1,2</sup> thus helping to build lean body mass to promote healing<sup>3</sup>
- Helps combat the loss of protein caused by inflammatory response<sup>1,2</sup>
- Helps cells maintain strength and structure,<sup>4</sup> which is important for proper healing<sup>3</sup>

β-hydroxy-β-methylbutyrate)

## ARGININE The Wound-Repair Warrior

- Regulates wound healing and supports tissue repair through collagen synthesis and deposition<sup>5</sup>
- As a precursor of nitric oxide, increases blood flow and oxygenation through vasodilation<sup>6</sup>
- Stimulates secretion of the hormones that can have a positive impact on wound healing<sup>7</sup>

## GLUTAMINE The Collagen Crusader

- Helps stimulate collagen and protein synthesis<sup>8,9</sup>
- Helps maintain body protein and donates nitrogen during times of metabolic stress<sup>10</sup>
- Serves as an energy source for the cells of the immune system and GI tract, which helps prevent, and assist in recovery from, infections<sup>11</sup>

### Availability



Or order online at [www.juven.com](http://www.juven.com) or call **1-877-465-8836**

	Flavor	List #	Case	List #	Carton
0.85-oz (24-g) packets					
30 packets/carton	Orange	57935	58012		
6 cartons/case	Grape	57936	58011		
180 packets/case	Unflavored	54000	56094		



**References** 1. Smith HJ, et al: *Cancer Res* 2005;65(1):277-283. 2. Smith HJ, et al: *Cancer Res* 2004;64:8731-8735. 3. Wolfe RR: *Am J Clin Nutr* 2006;84(3):475-482. 4. Nissen SL, et al: *J Nutr Biochem* 1997;8:300-311. 5. Schaffer MR, et al: *J Surg Res* 1996;63:237-240. 6. Schaffer MR, et al: *J Surg Res* 1997;71:25-31. 7. Barbul A, et al: *Surgery* 1990;108:331-337. 8. Bellon G, et al: *Biochem Biophys Acta* 1995;1268:311-323. 9. Karna E, et al: *Comp Biochem Physiol B Biochem Mol Biol* 2001;130:23-32. 10. Hammarqvist F, et al: *Ann Surg* 1989;209:455-461. 11. Smith RJ: *JPEN* 1990;14(S4):40S-44S.

\*Juven (Orange) is the recipient of the ChefsBest® Certified Award. The ChefsBest Certified Award is awarded to brands highly rated overall by independent professional chefs.

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