

NUTRISON CUBISON

SPECIALISED NUTRITION TO SUPPORT WOUND HEALING

Specifically formulated tube feed enriched with protein, arginine and other key nutrients to meet the nutritional needs of patients with pressure ulcers



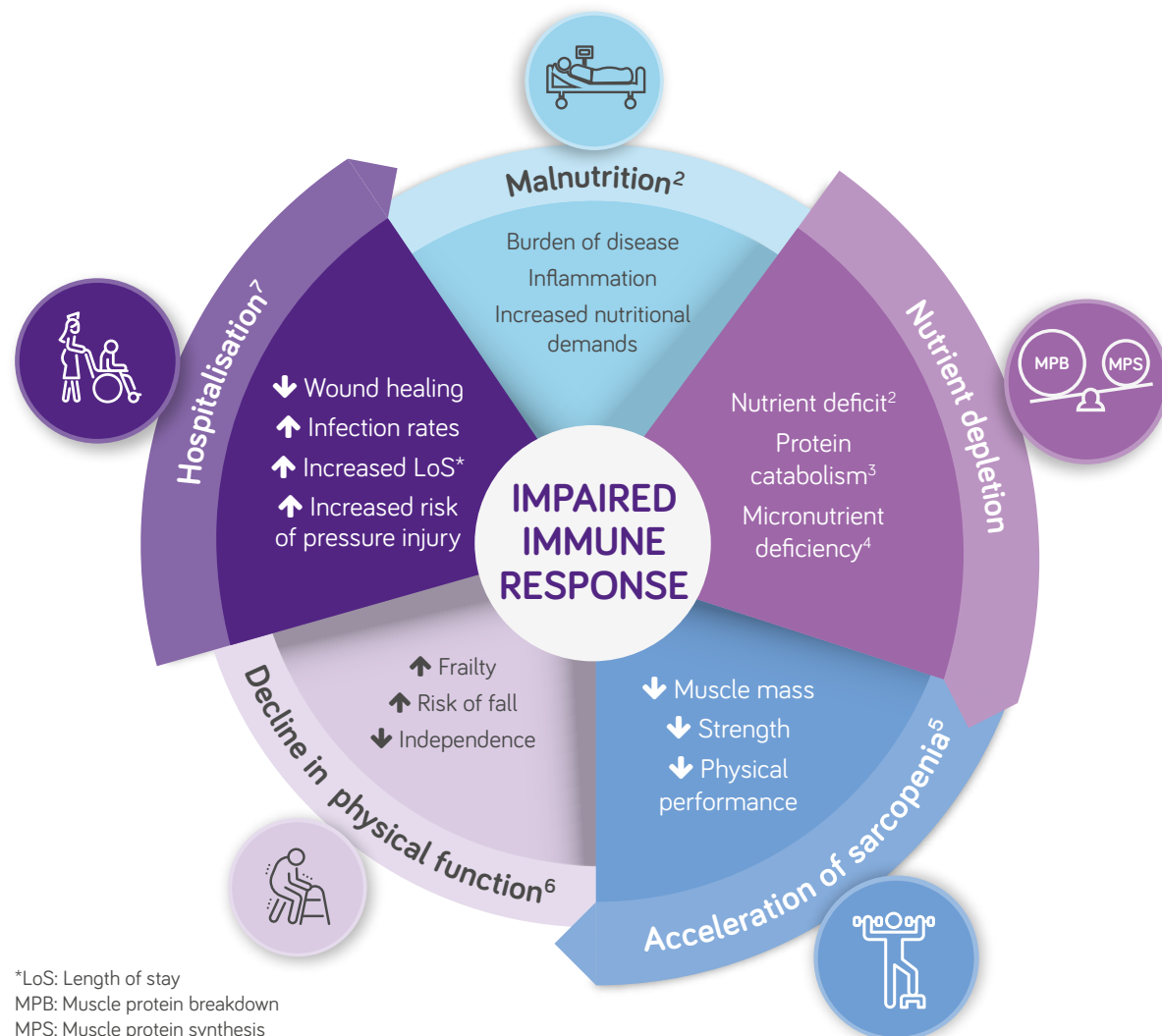
Nutrison Cubison is a Food for Special Medical Purposes, for the dietary management of disease related malnutrition in patients with chronic wounds and must be used under medical supervision.

THIS DOCUMENT IS FOR HEALTH CARE PROFESSIONALS ONLY.



CONSEQUENCES MALNUTRITION AND WOUND HEALING

Inadequate dietary intake, unintended weight loss and poor nutritional status are just some of the key independent risk factors for both the development of pressure ulcers and delayed wound healing.¹



Poor nutrition increases the likelihood of a wound progressing to a chronic wound due to lack of appropriate healing responses⁹.

Given that between 20-50% of elderly patients (who make up 70% of the pressure ulcer population) admitted to hospital have been shown to be suffering from malnutrition, and that malnutrition is a risk factor for developing pressure ulcers, it is not surprising that patients with pressure ulcers are known to have a poor nutritional status.¹⁰⁻¹²

References:

- Schols JM, et al. Nutritional support in the treatment and prevention of pressure ulcers: an overview of studies with an arginine enriched oral nutritional supplement. *Journal of tissue viability*. 2009;18:72-9.
- Cederholm T, et al. GLIM criteria for the diagnosis of malnutrition - A consensus report from the global clinical nutrition community. *Clin Nutr*. 2019;38:1-9.
- Mitchell WK, et al. Human Skeletal Muscle Protein Metabolism Responses to Amino Acid Nutrition. *Adv Nutr*. 2016;7:828-38.
- Childs CE, et al. Diet and Immune Function. *Nutrients*. 2019;11:1933.
- Cruz- Jentoft AJ, et al. Sarcopenia: revised European consensus on definition and diagnosis. *Age Ageing*. 2019;48:16-31.
- Fried LP, et al. Frailty in older adults: evidence for a phenotype. *J Gerontol A Biol Sci Med Sci*. 2001;56:146-56.
- Elia M, et al. Combating Malnutrition: Recommendations for action. Report from the Advisory Group on Malnutrition, led by BAPEN. 2009; BAPEN.
- Schneider SM, et al. Malnutrition is an independent factor associated with nosocomial infections. *Brit J Nutr*. 2004;92:105-11.
- Haughey L, et al. Nutrition and Lower Extremity Ulcers: Causality and/or Treatment. *Int J Low Extrem Wound*. 2017;16:238-43.
- Mathus-Vliegen EMH. Clinical Observations: Nutritional Status, Nutrition, and Pressure Ulcers. 2001;16(5):286-91.
- McIlwaine C. Importance of holistic nutritional assessment in wound healing. 2003;12(8):285-8.
- Russell L. Malnutrition and pressure ulcers: nutritional assessment tools. *British journal of nursing* (Mark Allen Publishing). 2000;9(4):194-6, 8, 200

PATIENTS AT RISK OF DEVELOPING PRESSURE INJURIES¹ WHO MIGHT BENEFIT FROM A FORMULA SPECIFICALLY DESIGNED FOR THE NUTRITIONAL SUPPORT OF WOUND HEALING



Nursing home

The prevalence of pressure injuries among the at-risk group (Bradenscore ≤ 20) in nursing homes can be up to around 30%¹.



Prolonged surgery

Prevalence of pressure injuries in surgical patients (surgical procedure $>3h$) is between 8% and 21% which increased numbers with prolonged surgical time³⁻⁵.



Fractured hip

Hip fracture patients are at high risk for pressure ulcers due to long period of immobility before, during and after the surgery. One-third of elderly hip fracture patients develops a pressure ulcer⁶.



Spinal cord injuries

Up to 95% of individuals with spinal cord injuries will have a pressure ulcer at some stage⁷.



Neurodegenerative disorders

Around 40% of advanced dementia patients develop pressure ulcers (stage II or higher) before they die⁸.



Diabetic patients

The prevalence of diabetic foot complications, varies between 3 and 13% with a global average of 6.3% with a higher prevalence in type 2 diabetic patients⁹⁻¹⁰.



Post-acute recovery phase

The prevalence of pressure injuries in critically ill patients is among the highest in hospital patients indicating the importance of wound care in the post-acute recovery phase¹¹⁻¹².

References:

1. European Pressure Ulcer Advisor Panel, National Pressure Injury Advisory Panel and Pan Pacific Pressure Injury Alliance. The International Guideline 2019. Prevention and treatment of pressure ulcers/injuries: clinical practice guideline. 2019.
2. Tannen A, et al. Differences in prevalence of pressure ulcers between the Netherlands and Germany—associations between risk, prevention and occurrence of pressure ulcers in hospitals and nursing homes. J Clin Nurs. 2008;17:1237-44.
3. Primiano M, et al. Pressure Ulcer Prevalence and Risk Factors among Prolonged Surgical Procedures in the OR. AORN J. 2011;94:555-66.
4. Schoonhoven L, et al. Incidence of pressure ulcers due to surgery. J Clin Nurs. 2001;11:479-87.
5. Shafipour V, et al. Prevalence of postoperative pressure ulcer: A systematic review and meta-analysis. Electron Physician. 2016;8:3170-6.
6. Baumgarten M, et al. Pressure Ulcers in Elderly Hip Fracture Patients Across the Continuum of Care. J Am Geriatr Soc. 2009;57:863-70.
7. Houghton PE, et al. Canadian Best Practice Guidelines for the Prevention and Management of Pressure Ulcers in People with Spinal Cord Injury. A resource handbook for Clinicians.
8. Mitchell SL, et al. The clinical course of advanced dementia. N Engl J Med. 2009;361:1529-38.
9. Zhang P, et al. Global epidemiology of diabetic foot ulceration: a systematic review and meta-analysis. Ann Med. 2017;49:106-16.
10. International Diabetes Federation. IDF Diabetes Atlas. Ninth edition 2019.
11. Coyer F, et al. Pressure injury prevalence in intensive care versus non-intensive care patients: A state-wide comparison. Aus Crit Care. 2017;30:244-50.
12. Zhao G, et al. A Cross-sectional Descriptive Study of Pressure Ulcer Prevalence in a Teaching Hospital in China. Wound Manag Prev. 2010;56(2).

KEY NUTRIENTS TO SUPPORT THE WOUND HEALING PROCESS AND IMMUNE HEALTH

Certain nutrients, which have commonly been classified as non-essential, become essential in certain clinical conditions; this is the case with arginine, zinc and certain vitamins during the healing process.¹

ENERGY & PROTEIN and other nutrient requirements are increased because of losses in the wound exudate, inflammatory repair processes and the formation of new tissue². Adequate intake of protein may be particularly important, as proteins are essential for wound healing.

Arg

ARGININE takes part in the tissue regeneration process, increasing the accumulation of collagen and bringing about an improvement in the wound-healing time. It is also a biological precursor of nitric oxide, which acts as a vasodilator, an antibacterial and an anti-angiogenic.³

Zn

ZINC acts as an antioxidant, regulates cell replication and has an antibacterial activity.¹ Zinc is important for the development and maintenance of innate and adaptive immune cells.

C

VITAMIN C affects the formation of collagen and has anti-oxidant functions.⁴

Se

SELENIUM is a part of the antioxidant defense system that acts as redox regulators & cellular antioxidants, which regulate innate immune responses and inflammatory processes.⁸

E

VITAMIN E has an antioxidant role, which protects cell membranes and polyunsaturated fats from the attack of the reactive oxygen species (ROS).⁵ It adjusts the expression of the connective tissue growth factor and regulates the gene expression and transcription, which facilitates the protection of wounds from infections.⁶



Vitamin C and zinc have shown greater benefits⁷ provided synergistically with arginine.

KEY NUTRIENTS PLAY AN ACTIVE ROLE
AT VARIOUS STAGES OF THE WOUND
HEALING PROCESS



References:

1. Chow Q, et al. Immunonutrition: Role in Wound Healing and Tissue Regeneration. Adv Wound Care (New Rochelle). 2014;3(1):46-53 2. Breslow RA, et al. The importance of dietary protein in healing pressure ulcers. J Am Geriatr Soc. 1993;41:357-62. 3. Posthauer ME, et al. The role of nutrition for pressure ulcer management: national pressure ulcer advisory panel, European pressure ulcer advisory panel, and pan pacific pressure injury alliance white paper. Adv Skin Wound Care. 2015;28:175-88 4. Quain AM, et al. Nutrition in Wound Care Management: A Comprehensive Overview. Wounds 2015;27:327-35. 5. Shahin ES, et al. The relationship between malnutrition parameters and pressure ulcers in hospitals and nursing homes. Nutrition. 2010 ;26:886-9. 6. Palmieri B, et al. Nutrition in wound healing: investigation of the molecular mechanisms, a narrative review. J Wound Care. 2019;2;28:683-93. 7. Posnett J, et al. The resource impact of wounds on health-care providers in Europe. J Wound Care. 2009;18:154-61. 8. Gombart AF, et al. A Review of Micronutrients and the Immune System-Working in Harmony to Reduce the Risk of Infection. Nutrients. 2020;16;12:236.

NUTRISON CUBISON

TUBE FEED SPECIFICALLY FORMULATED TO MEET THE NUTRITIONAL NEEDS OF PATIENTS WITH PRESSURE ULCERS



Product overview

Designed to support gut health and immune function

Formulated with the key nutrients involved in the wound healing process

Clinically proven to accelerate wound healing

Designed for better usability, safety and for a better planet



NUTRISON CUBISON

**SPECIFICALLY
FORMULATED TUBE
FEED TO SUPPORT
WOUND HEALING
ALSO TO SUPPORT
IMMUNE FUNCTION**

Nutrison Cubison is a nutritionally complete enteral tube feed:

- ✓ 1040 kcal
- ✓ 55g Protein
- ✓ 8,5g Arginine
- ✓ 15g Fibre (MF6)
- ✓ Micronutrients

Available
in 500ml and
1000ml OpTri
bottle



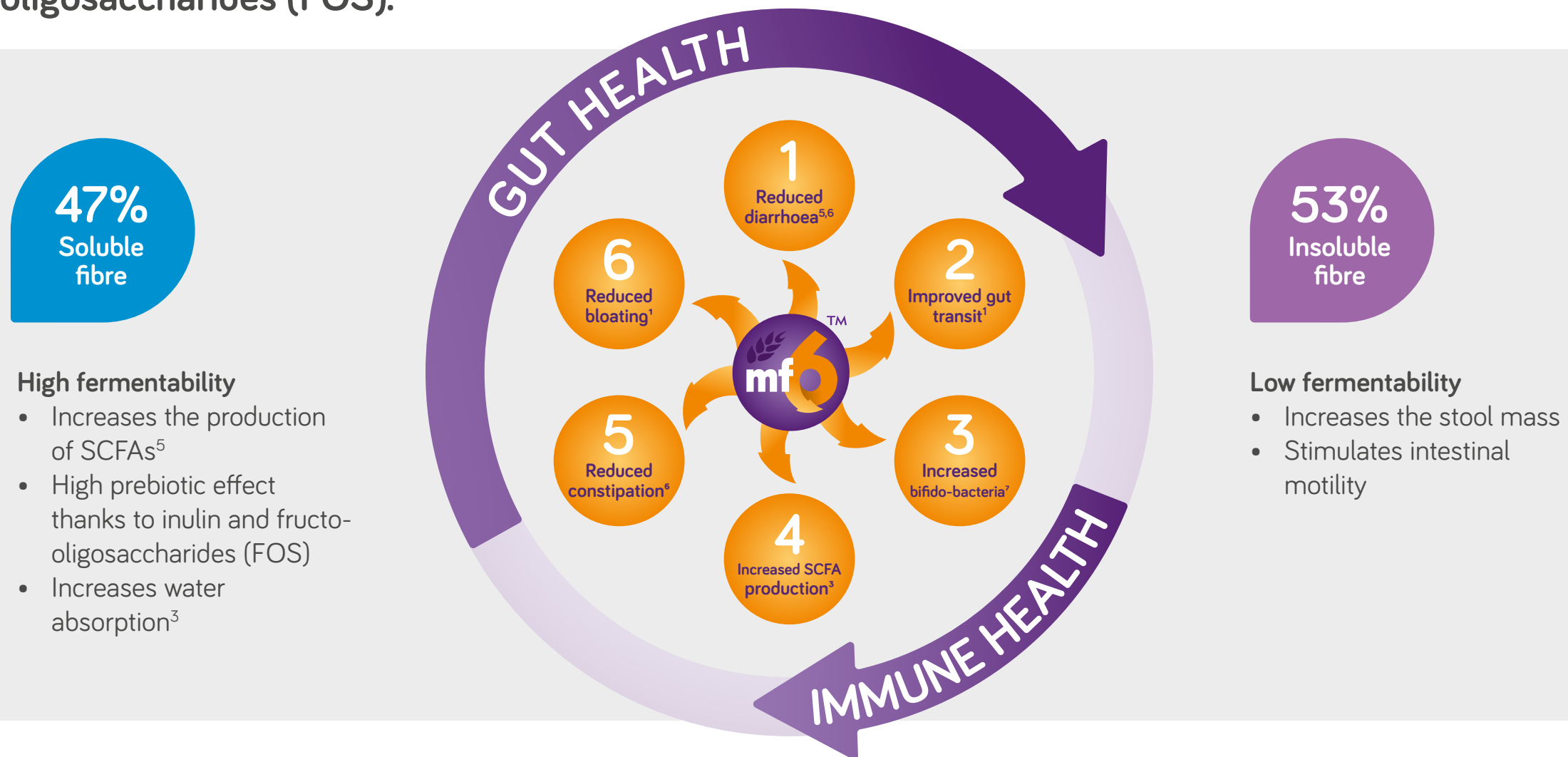
Food for Special Medical Purposes.

For the dietary management of disease related malnutrition in patients with chronic wounds. Must be used under medical supervision.



THE MF6™ MIX IS DESIGNED TO SUPPORT GUT HEALTH^{1,2} AND IMMUNE FUNCTION^{3,4}

The unique fibre blend (MF6™) consist of **six different fibers** including the **prebiotic fibres inulin** and **fructo-oligosaccharides (FOS)**.

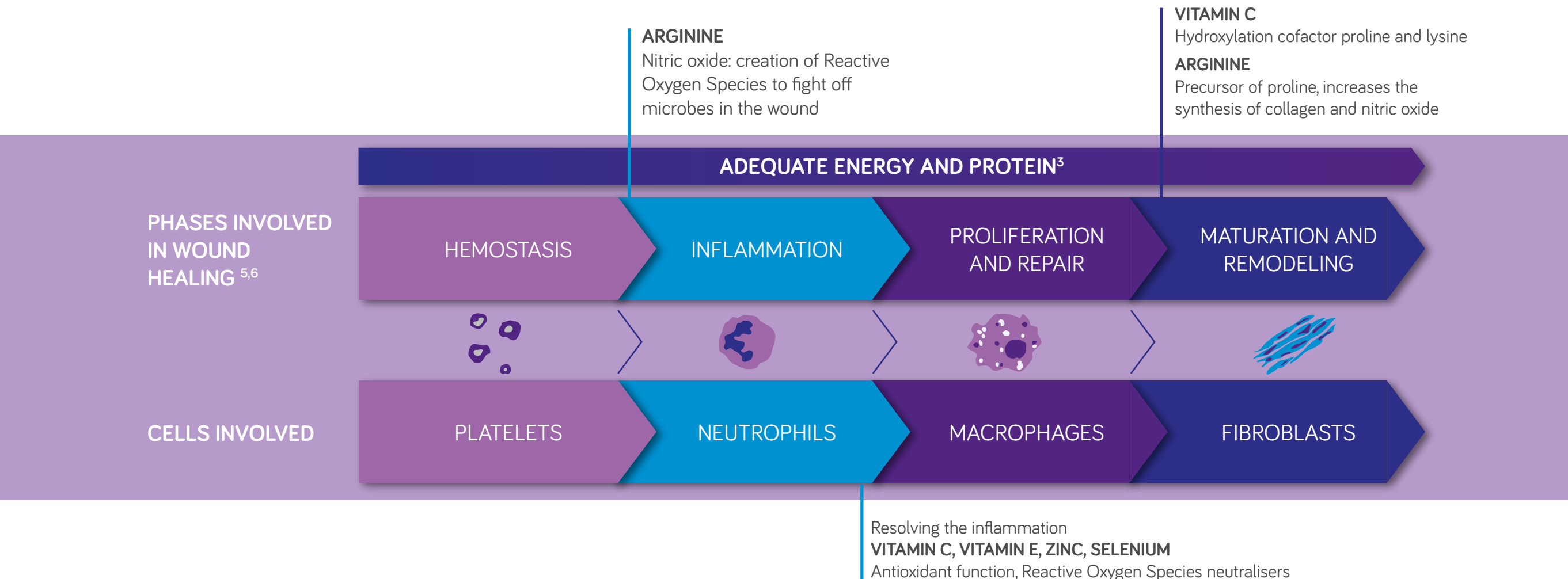


References:

1. Silk DBA et al. The effect of polymeric enteral formula supplemented with a mixture of six fibres on normal human bowel function and colonic motility. Clin Nutr. 2001;20:49-58. 2. Jakobsen LH, et al. Gastrointestinal tolerance and plasma status of carotenoids, EPA and DHA with a fiber-enriched tube feed in hospitalized patients initiated on tube nutrition: Randomized controlled trial. Clin Nutr. 2017;36:380-8. 3. Schneider SM et al. Effects of total enteral nutrition supplemented with a multi-fibre mix on faecal short chain fatty acids and microbiota. Clin Nutr. 2006;25:82-90. 4. Karakan T, et al. Comparison of early enteral nutrition in severe acute pancreatitis with prebiotic fiber supplementation versus standard enteral solution: A prospective randomized double-blind study. World J Gastroenterol. 2007;13:2733-7. 5. Guimber D, et al. Effect of multifibre mixture with prebiotic components on bifidobacteria and stool pH in tube-fed children. Br J Nutri. 2010;104:1514-22. 6. Wierdsma NJ et al. Een vergelijking van een voeding met guargom met een voeding met vezelmix [Comparison of two tube feeding formulas enriched with guar gum or mixed dietary fibres]. Ned TijdschrDiëten. 2001;56:243-7. 7. Trier E, et al. Effects of a multifibre supplemented paediatric enteral feed on gastrointestinal function. J Pediatr Gastroenterol Nutr. 1999;27:595 (abstract). 7. Guimber D et al. A specific multi-fibre mixture in paediatric enteral nutrition is well tolerated and increases bifidobacteria. Poster presentation at ESPGHAN 2007.



KEY NUTRIENTS PLAY AN ACTIVE ROLE AT VARIOUS STAGE OF THE WOUND HEALING PROCESS^{1,2}



European Pressure Ulcer Advisor Panel, National Pressure Injury Advisory Panel and Pan Pacific Pressure Injury Alliance² recommends:

Provide high-calorie, **high-protein, arginine, zinc and antioxidant oral nutritional supplements/enteral formula** for adults with a Category/Stage II or greater pressure injury who are malnourished or at risk of malnutrition.

Reference:

1. Chow Q, et al. Immunonutrition: Role in Wound Healing and Tissue Regeneration. Adv Wound Care (New Rochelle). 2014;3:46-53. 2. European Pressure Ulcer Advisor Panel, National Pressure Injury Advisory Panel and Pan Pacific Pressure Injury Alliance. The International Guideline 2019. Prevention and treatment of pressure ulcers/injuries: clinical practice guideline. 2019. 3. Breslow RA, et al. The importance of dietary protein in healing pressure ulcers. J Am Geriatr Soc. 1993;41:357-62.



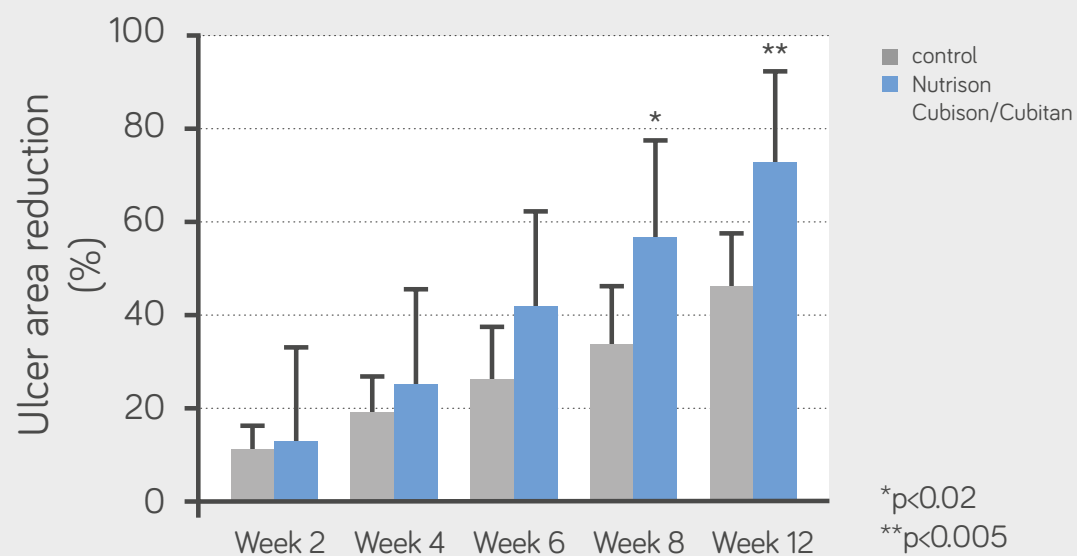
NUTRISON CUBISON

CLINICALLY PROVEN TO ACCELERATE WOUND HEALING¹

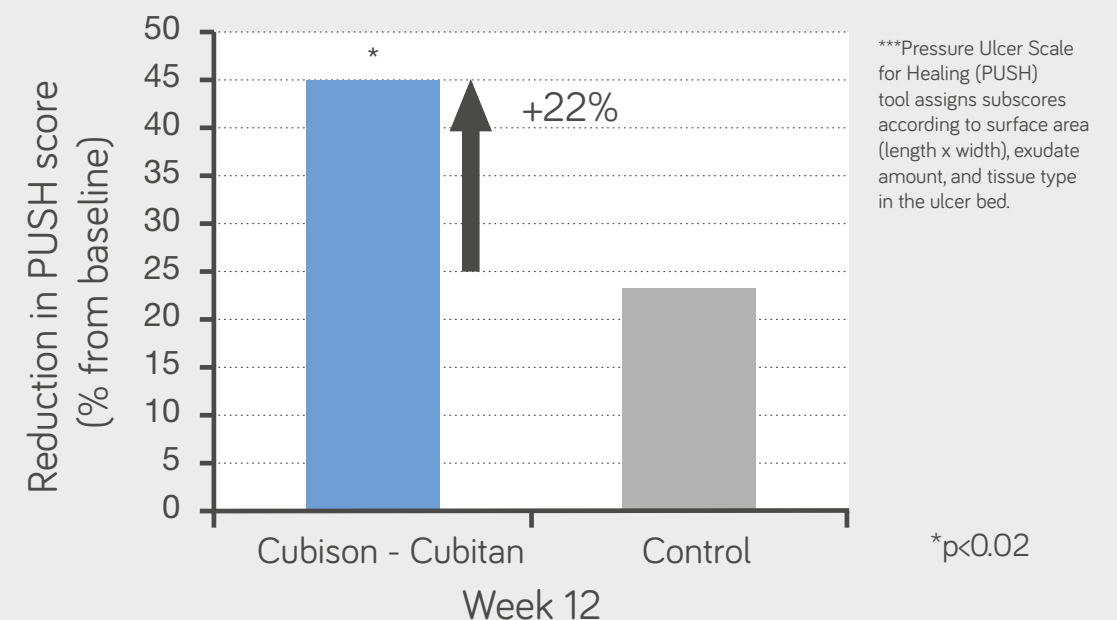
Administration of a nutrition formula enriched with protein, arginine, zinc, and vitamin C during 12 weeks accelerates pressure ulcers healing compared to a standard dietary approach in institutionalized elderly patients.

RCT (n=28)
hospitalized
malnourished elderly
patients with Grade II,
III, IV bedsores

Significant reduction in wound size over time



Twice the reduction in PUSH^{***} score in week 12



***Pressure Ulcer Scale for Healing (PUSH) tool assigns subscores according to surface area (length x width), exudate amount, and tissue type in the ulcer bed.

► **24% greater reduction** in pressure ulcer size in **8 weeks***

► **22% greater improvement** in PUSH score in **week 12***

Lower infectious complications with 65% less days on antibiotics in 12 weeks

Reference:

1. Cereda E, et al. Disease-specific, versus standard, nutritional support for the treatment of pressure ulcers in institutionalized older adults: a randomized controlled trial. J Am Geriatr Soc. 2009;57:1395-1402.



NUTRISON CUBISON COMES IN THE MULTI-AWARD WINNING OPTRI BOTTLE WHICH IS DESIGNED FOR BETTER USABILITY, SAFETY AND FOR A BETTER PLANET



WORLDSTAR
WINNER 2020

OPTRI BOTTLE BENEFITS

- 
- **Stable self-standing bottle:** makes handling and connecting easier
 - **Smooth material:** no sharp edges and comfortable when handling
 - **Easy to open** with one hand and to connect to giving set
 - **Non-detachable:** reducing risk of swallowing a loose cap
 - **More hygienic:** less contact when opening and connecting when re-used
 - **Reclaimable and recyclable** material
 - **Big eye on the hanging hook:** makes it easy to hang, even with one hand
 - **Appealing design**
 - **Ergonomic shape:** allows a good grip while handling
 - **Semi-translucent material and clear volume markings:** helps to monitor product usage
 - **Manufactured with 85% less water and 21% less CO₂ emissions** compared to the previous pouch production process



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