

## ONS Helps Improve Clinical and Economic Outcomes Associated with Malnutrition

- Oral nutritional supplements (ONS) provide calories, protein and other essential nutrients to help improve nutritional intake and support weight maintenance and/or weight gain in patients who are at risk of malnutrition or who have been diagnosed with malnutrition.<sup>1</sup>
- Protein needs increase with age for both healthy and non-healthy older adults to maintain muscle mass and functionality.<sup>2,3</sup> More than 40% of adults ages 51 and older are not meeting minimum daily protein requirements<sup>4</sup>

## ONS Have Been Shown to Improve:

### Nutritional Status:

- ONS increase calories, protein, vitamin, and mineral intake for hospital patients, long-term care residents, and those living at home<sup>1,5-8</sup>
- ONS consumption does not reduce normal food intake<sup>5,6</sup>

### Functional Status:

- In elderly patients, ONS can improve mobility, activities of daily living (ADL), muscle strength, and can help reduce the risk of falls.<sup>1,9-13</sup>
- High protein ONS help improve nutritional status to decrease the risk of developing pressure injuries and help improve wound management<sup>14-16</sup>
- ONS can help maintain bone density in patients with osteoporosis or recent hip/femoral neck fracture<sup>17-19</sup>
- ONS can help improve Quality of Life in elderly patients with or at risk for malnutrition<sup>6,11,20</sup>

### Economic Outcomes

- **Hospital:** ONS are associated with decreased hospital costs, including shorter length of stay (LOS), lower readmissions, and decreased complication rates.<sup>1,21-24</sup> Studies on ONS have shown:
  - 21% reduction in LOS and a 21.6% decline in episode cost in hospitalized adults<sup>25</sup>
  - 35% reduction in complications in surgical patients<sup>23</sup>
  - 26% reduction in 30-day readmission rates in adults<sup>26</sup>
- **Community:** The cost-effectiveness of ONS have frequently been demonstrated in the hospital setting and ONS are also likely to be cost-effective in the community and home care settings<sup>24,25,27</sup>
  - ONS have been shown to reduce hospitalization by 16.5% and reduce medical care costs in non-hospital settings<sup>27,28</sup>
- **Rehabilitation:** ONS helped reduce the incidence of institutionalization of patients in a stroke rehabilitation center and reduced LOS in a rehabilitation ward following surgery for hip fracture<sup>10,29</sup>

## International clinical nutrition society guidelines for older adults indicate key patient groups who should receive ONS (Strong Consensus)<sup>30</sup>

Patient Group	Consensus Recommendation to Use ONS to:
Hospitalized older persons with (or at risk of) malnutrition	<ul style="list-style-type: none"> <li>– Improve dietary intake and body weight</li> <li>– Lower the risk of complications and readmissions</li> </ul>
After discharge from the hospital, older persons with (or at risk of) malnutrition	<ul style="list-style-type: none"> <li>– Improve dietary intake and body weight</li> <li>– Lower the risk of functional decline</li> </ul>
Older patients with hip fracture	<ul style="list-style-type: none"> <li>– Improve dietary intake</li> <li>– Reduce the risk of complications</li> </ul>
Older patients at risk of pressure ulcers	<ul style="list-style-type: none"> <li>– Prevent the development of pressure ulcers</li> </ul>
Malnourished older patients with pressure ulcers	<ul style="list-style-type: none"> <li>– Improve healing</li> </ul>

ONS offered to an older person with (or at risk of) malnutrition shall provide at least 400 kcal/day including 30 g or more of protein/day.<sup>30</sup> ONS with dietary advice should be recommended to all older people affected by undernutrition.<sup>31</sup>

## Malnutrition Can Occur in Every Healthcare Setting

A large-scale multinational study showed that malnutrition in adults 65 years and older remained high across all care settings:<sup>32</sup>

Setting	Malnutrition	Risk of Malnutrition
Rehabilitation	50.5%	41.2%
Hospital	38.7%	47.3%
Nursing Home	13.8%	53.4%
Community	5.8%	31.9%

- (Risk of) malnutrition is most common in the elderly, affecting as many as 69% of individuals across different care settings and 30% in the community.<sup>32</sup>
- (Risk of) malnutrition leads to increased mortality rates, compared with well-nourished individuals.<sup>33</sup>
- Malnutrition increases morbidity, including hospital admissions, complications, infections, and pressure injuries.<sup>33-35</sup>
- Malnutrition negatively impacts functional status parameters, activities of daily living, muscle mass and strength, frailty, sarcopenia, and risk of falls.<sup>36-41</sup>
- (Risk of) malnutrition leads to poor quality of life.<sup>42</sup>

## The Economic Burden of Malnutrition is High

- Disease-associated malnutrition creates a \$157 billion burden in the U.S. annually, considering direct medical costs, quality-adjusted life years lost, and mortality.<sup>43</sup>
- Direct medical costs of disease-associated malnutrition total \$15.5 billion annually in the U.S.<sup>44</sup>
- The 30-day readmission rate is more than 50% higher, and the average cost per readmission is 26% higher for patients with malnutrition compared to patients without malnutrition.<sup>45</sup>
- Cost is driven by increased resource use:<sup>45-47</sup>
  - Hospital LOS and readmissions
  - Comorbidities (e.g. pressure injuries, infections)
  - Need for long-term care

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