Hospital discharge: and now?

Securing nutritional care at home

A.M. Beck (DK)
Securing nutritional care at home

For old people discharged from hospital

Anne Marie Beck
Docent
Det Sundhedsfaglige og Teknologiske Fakultet
Disclosure for A. Beck

In compliance with COI policy, ESPEN requires the following disclosures to the session audience:

<table>
<thead>
<tr>
<th>Category</th>
<th>Disclosures</th>
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<tbody>
<tr>
<td>Shareholder</td>
<td>No relevant conflicts of interest to declare</td>
</tr>
<tr>
<td>Grant / Research Support</td>
<td>No relevant conflicts of interest to declare</td>
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<td>Consultant</td>
<td>No relevant conflicts of interest to declare</td>
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<td>No relevant conflicts of interest to declare</td>
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<tr>
<td>Other</td>
<td>No relevant conflicts of interest to declare</td>
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</tbody>
</table>

Presentation includes discussion of the following off-label use of a drug or medical device: <N/A>
Disclosure for A. Beck

- Invited speaker, from Denmark
- Someone special is soon old....

Presidential suite The Hague Marriott Hotel
Learning objectives

- Know the nutritional care and follow-up at home after hospital discharge
- Know the central role of general practitioners
- Know the integration of nutritional care with rehabilitation
Ancel Keys: The Minnesota starvation experiment

Effect of semi-starvation
Keys et al. 1950

Sam Legg in 1942, before the experiment, at Civilian Public Service Camp #101 in Colville, California. Many of the idealistic conscientious objectors found forestry work less than fulfilling, and sought out more challenging alternatives. Courtesy of Sam Legg.

Wallace Kirkland photo of Sam Legg that appeared in the July 30, 1945 issue of Life. Wallace Kirkland/Time & Life Pictures/Getty Images.
Ancel Keys: The Minnesota starvation experiment

Effect of semi-starvation
Keys et al. 1950

0 4 8 12 16 20 24 28 32 36 40 44 48 52
0 20 40 60 80 100 120 140
Depression score
Easy exhaustion
Forgetfulness

1500 Kcal/day

Percent of initial value

Week

Setting the stage
Nutritional status, well-being and functional ability in frail elderly service flat residents

A Ödlund Olin, A Koochek, O Ljungqvist and T Cederholm

Ingerstev J et al. Danish Nutritional Council 2002
Hospitalization and Change in Body Composition and Strength in a Population-Based Cohort of Older Persons

Dawn E. Alley, PhD; Annemarie Koster, PhD; Dawn Mackey, PhD; Peggy Gawthon, PhD; Luigi Ferrucci, MD, PhD; Eleanor M. Simonsick, PhD; Binbing Yu, PhD; Susan Hardy, MD, PhD; Bret Goodpaster, PhD; Catherine Sarkisian, MD, MPH; Denise K. Houston, PhD; Stephen B. Kritchevsky, PhD; Steven Cummings, MD; Jung-Sun Lee, PhD; Frances A. Tylavsky, PhD; Anne Newman, MD, MPH; and Tamara Harris, MD, MSc for the Health ABC Study

Figure 1 Proposed model of age-related muscle loss punctuated by episodes of acute illness or injury and characterized by accelerated muscle loss and incomplete recovery

Lean muscle mass (kg)

(— —), Traditional sarcopenia model; (- -), Catabolic crisis model.
The challenges
The challenges – (nutritional) risk factors

- Poly-morbidities
- Low functional capacity
- Chewing and swallowing problems
- Eating dependency
- Poly-pharmacy
- Care dependent
- High level of (re-)admissions

(Danish Board of Heath 2010)
In Denmark 50 % of geriatric patients discharged with an exercise plan due to loss of physical function – 10 % of these has a nutritional plan.
The challenges – (nutritional) risk factors and lack of awareness
The challenges - whom to aim for?

- The undernourished according to e.g. MNA
- Those who might benefit, e.g. according to NRS-2002
The challenges - the right solution??

Recommendations for Intervention

MNA* Score

- Normal Nutritional Status (12 – 14 points)
- At Risk of Malnutrition (8 – 11 points)
- Malnourished (0-7 points)

No Weight Loss

- RESCREEN
  - After acute event or illness
  - Once per year in community dwelling elderly
  - Every 3 months in institutionalized patients

- MONITOR
  - Close weight monitoring
  - Rescreen every 3 months

- TREAT
  - Nutrition intervention
  - Diet enhancement
  - Oral nutritional supplementation (400 kcal/d)^1
  - Close weight monitoring
  - Further in-depth nutrition assessment

Weight Loss

- TREAT
  - Nutrition intervention
  - Oral nutritional supplementation (400-600 kcal/d)^2
  - Diet enhancement
  - Close weight monitoring
  - Further in-depth nutrition assessment

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3. © Nestec S.A. 2009
The solutions: Council of Europe recommendations
network for improving nutrition in home care and care homes
The solutions:

**Recommendation 8**

Nutritional intervention, multidisciplinary to increase body weight.

Grade of recommendation: 

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**ESPEN Guidelines**

Pre

Dorothee Volko
Sabine Goisser, Lee Corneli

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**Diet in Geriatrics**

July 2017

Jonso Cruz-Jentoft,
Agathe Raynaud-Simon,
Rainer Wirth
Learning objectives

- Know the nutritional care and follow-up at home after hospital discharge
- Know the central role of general practitioners
- Know the integration of nutritional care with rehabilitation
Hospitalization and Change in Body Composition and Strength in a Population-Based Cohort of Older Persons

Dawn E. Alley, PhD1, Annemarie Koster, PhD2, Dawn Mackey, PhD3, Peggy Caythorn, PhD, MPH5, Luigi Ferrucci, MD, PhD3, Eleanor M. Simonsick, PhD4, Binbing Yu, PhD2, Susan Hardy, MD, PhD5, Bret Goodpaster, PhD5, Catherine Sarkisian, MD, MPH6, Denise K. Houston, PhD7, Stephen B. Kritchevsky, PhD, Steven Cummings, MD3, Jung-Sun Lee, PhD8, Frances A. Tylavsky, PhD9, Anne Newman, MD, MPH5, and Tamara Harris, MD, MSc2 for the Health ABC Study

Setting the stage
English KL & Paddon-Jones D 2010

Recommendation 8

Nutritional interventions for older persons should be part of a multimodal and multidisciplinary team intervention in order to support adequate dietary intake, maintain or increase body weight and improve functional and clinical outcome (BM)

Grade of recommendation B

(—), Traditional sarcopenia model; (—), Catabolic crisis model.
Recommendation 24

After discharge from the hospital, older persons with malnutrition or at risk of malnutrition shall be offered ONS in order to improve dietary intake and body weight, and to lower the risk of functional decline (BM)

Grade of recommendation A

Recommendation 17

Older persons with malnutrition or at risk of malnutrition shall be offered individualized nutritional counselling in order to support adequate dietary intake and maintain nutritional status (BM)

Grade of recommendation A

Recommendation 18

Individualized nutritional counselling should be offered by a qualified dietician to these persons and/or their caregivers, should consist of several (at least 2) individual sessions that may be combined with group sessions, telephone contacts and written advice and should be maintained over a longer period of time (at least 8 weeks)

Grade of recommendation GPP
Ancel Keys: The Minnesota starvation experiment

Sam Legg in 1942, before the experiment, at Civilian Public Service Camp #101 in Coleville, California. Many of the idealistic conscientious objectors found forestry work less than fulfilling, and sought out more challenging alternatives. Courtesy of Sam Legg

Wallace Kirkland photo of Sam Legg that appeared in the July 30, 1945 issue of Life. Wallace Kirkland/Time & Life Pictures/Getty Images
Learning objectives

- Know the nutritional care and follow-up at home after hospital discharge
- **Know the central role of general practitioners**
- Know the integration of nutritional care with rehabilitation
The challenges – (nutritional) risk factors

Recommendation 8

Nutritional interventions for older persons should be part of a multimodal and multidisciplinary team intervention in order to support adequate dietary intake, maintain or increase body weight and improve functional and clinical outcome (BM)

Grade of recommendation B

- Eating dependency
- Poly-pharmacy
- Care dependent
- High level of (re-)admissions
  (Danish Board of Heath 2010)
Follow-up home visits with registered dietitians have a positive effect on the functional and nutritional status of geriatric medical patients after discharge: a randomized controlled trial

Anne Marie Beck, Stine Kjær, Birthe Stenbæk Hansen, Rikke Lunau Storm, Kirsten Thal-Jantzen and Christian Bitz
Follow-up home visits with registered dietitians have a positive effect on the functional and nutritional status of geriatric medical patients after discharge: a randomized controlled trial

Anne Marie Beck, Steine Kjaer, Birthe Stenbæk Hansen, Rikke Lousau Storm, Kirsten Thøl-Jøntze and Christian Bøtø
- Function (DEMNI) ↑
- Nutritional status ↑
- Meals-on-wheels ↓
- ONS use ↑
- (Re)-admissions NS
- Mortality NS
Original Article

Does adding a dietician to the liaison team after discharge of geriatric patients improve nutritional outcome: A randomised controlled trial

A Beck¹, UT Andersen¹, E Leedø¹, LL Jensen¹, K Martins¹, M Quvang², KØ Rask¹, A Vedelspeng¹ and F Rønholt³
At the hospital - all
Does adding a dietician to the liaison team after discharge of geriatric patients improve nutritional outcome: A randomised controlled trial

A Beck', UT Andersen', E Leedo', LL Jensen', K Martins', M Qvvang', KØ Rask¹, A Vedel', and F Rasholt

FNUG - liaison team
FNUG results?
Does adding a dietician to the liaison team after discharge of geriatric patients improve nutritional outcome: A randomised controlled trial

A Beck1, UT Andersen1, E Leedt1, I L Jansen1, K Martins2, M Quvang1, K Ø R Freiboldt3

Journal of Aging Science

Research Article

Adding a Dietitian to a Danish Liaison-Team after discharge of geriatric patients at nutritional risk may save health care costs

Anne Pohjiu*, Kerstin Belgardi2, Christopher Brandt3, Kerstin Lugnet3, Anni Linnet Nielsen4, Henrik Højgaard Rasmussen4, Nanna ML Rasmussen* and Anne Marie Beck5

1Clinical Nutrition Unit, Helsinki University Central Hospital, Helsinki, Finland
2Department of Learning, Informatics, Management and Ethics, Karolinska Institute, Stockholm, Sweden
3Department of Medical Gastroenterology, Rigshospitalet, Copenhagen, Denmark
4Department of Public Health and Caring Sciences, Uppsala University, Uppsala, Sweden
5Department of Oncology, Herlev University Hospital, Herlev, Denmark
6Centre for Nutrition and Bowel Disease, Aalborg University Hospital, Aalborg, Denmark
7Department of Clinical Nutrition, Regional Hospital West Jutland, Holstebro, Denmark
8Department of Nutrition and Health, Metropolitan University College, Denmark

Abstract

**Background:** A previous study investigated the value of adding a dietician to a geriatric discharge Liaison-Team. The scope of this study was to explore the possible economic savings of this.

**Methods:** Patients, 70+ and at nutritional risk, were randomized to receive discharge Liaison-Team either with (intervention group, IG) or without a dietitian (control group, CG). The IG received three home visits by the dietitian during a 12-week period. Data included in the economic analysis was time spent by the dietitian, use of oral nutritional supplements (ONS) and number of hospitalization days.

**Results:** Of the 71 included patients, 34 were in the IG, 30 patients received all three dietitian visits. Cumulated number of hospitalization days was 172 in the IG and 415 in the CG. Use of ONS was 48% in the IG and 17% in the CG ($P=0.001$). Estimated cost for the dietitian and ONS combined in the IG was €9,416 compared to €1,150 (ONS only) in the CG. For hospitalizations, estimated cost was €92,020 in the IG and €220,025 in the CG. Cost savings added up to €3,048 per patient in the IG.

**Conclusion:** Adding a dietitian to a Danish geriatric discharge Liaison-Team decreased health care costs.
Learning objectives

- Know the nutritional care and follow-up at home after hospital discharge
- Know the central role of general practitioners
- Know the integration of nutritional care with rehabilitation
The challenges

Refrigerator content and hospital admission in old people

Nadir Boumendjel, François Hermann, Véronique Girod, Cornel Sieber, Charles-Henri Rapin

In Denmark 50 % of geriatric patients discharged with an exercise plan due to loss of physical function – 10 % of these has a nutritional plan
Energy Balance Changes the Anabolic Effect of Postexercise Feeding in Older Individuals

Brian D. Minor,1,* Daniel E. Heusinger,2,* Edward L. Melanson,3 Karyn L. Hamilton,1 and Benjamin F. Miller1

<table>
<thead>
<tr>
<th>Exercise plan at discharge</th>
<th>N (%)</th>
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<tbody>
<tr>
<td></td>
<td>57</td>
</tr>
<tr>
<td>Start exercise in the municipality</td>
<td>23 (40)</td>
</tr>
<tr>
<td>Re-admitted before start</td>
<td>15 (44)</td>
</tr>
<tr>
<td>Finnish exercise in the municipality</td>
<td>10 (18)</td>
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</table>

Hansen BS et al. 2016
The challenges – (nutritional) risk factors and lack of awareness
The challenges - whom to aim for?

- The undernourished according to e.g. MNA
- Those who might benefit, e.g. according to NRS-2002
The solutions:

Recommendation 8

Nutritional intervention as part of a multimodal and multidisciplinary team to increase body weight. Grade of recommendation: A

ESPEN Guidelines
Pre
Dorothee Volker
Sabine Goisser, Lee Tollefsen, Rainer Wirth

Nutrition in Geriatrics
July 2017
Anso Cruz-Jentoft,
Agathe Raynaud-Simon,
Rainer Wirth
Recommendation 16

Health care professionals as well as informal caregivers should be offered nutritional education in order to ensure awareness of and basic knowledge on nutritional problems and thus promote adequate dietary intake of older persons with malnutrition or at risk of malnutrition.

Grade of recommendation GPP

Recommendation 43

In addition to nutritional interventions, older persons with malnutrition or at risk of malnutrition should be encouraged to be physically active and to exercise in order to maintain or improve muscle mass and function. (BM)

Grade of recommendation GPP

Recommendation 44

During periods of exercise interventions, adequate amounts of energy and protein should be provided to older persons with malnutrition or at risk of malnutrition in order to maintain body weight and to maintain or improve muscle mass. (BM)

Grade of recommendation V

Recommendation 14

Meals-on-wheels offered to home-dwelling older persons with malnutrition or at risk of malnutrition should be energy-dense and/or include additional meals to support adequate dietary intake (BM)

Grade of recommendation B

Recommendation 21

Older persons with malnutrition or at risk of malnutrition and signs of oropharyngeal dysphagia and/or chewing problems shall be offered texture-modified, enriched foods as a compensatory strategy in order to increase dietary intake.

Grade of recommendation GPP
Multidisciplinary Nutritional Support for Undernutrition in Older Adults in Nursing Home and Home-Care is Cost-Effective

Anne Marie Beck1,2, Hans Kristensen3, Annette G. Christensen4, Børge Stenbæk Hansen5, Signe Dambo-Svendsen6, Tina Krenfeldt-Skjøggaard7, Mads Clinical Dietician8

Study protocol: cost-effectiveness of multidisciplinary nutritional support for undernutrition in older adults in nursing home and home-care: cluster randomized controlled trial

Anne Marie Beck1, Annette G. Christensen4, Børge Stenbæk Hansen5, Signe Dambo-Svendsen6, Tina Krenfeldt-Skjøggaard7, Mads Clinical Dietician8

Cost-effectiveness study of tværfaglig ernærings-intervention blandt skrøbelige underernærede ældre

Socialstyrelsen

Københavns Universitet

Frederiksberg Kommune

Foreningen af Kliniske Diætister

For alle ernæringsprofessionelle
Eating Validation Scheme
Danish Board of Social Services 2011

Ernæringsvurdering

Dato: ____________________________
Navn: ____________________________
Højde: ____________________________
Fødselsdag: ______________________
Bolig: ____________________________
Kontaktperson: ____________________
Applied nutritional investigation

Ability of different screening tools to predict positive effect on nutritional intervention among the elderly in primary health care

Anne Marie Beck Ph.D.\textsuperscript{a,*}, Tina Beermann M.Sc. (Clin. Nutr.)\textsuperscript{b}, Stine Kjær\textsuperscript{c}, Henrik Højgaard Rasmussen Prof.\textsuperscript{d}
Fig. 1. The study design. (EVS, Eating Validation Scheme).
Increased QoL 1 QUALY = 8500 €
Take home messages and further reading:

Recommendation 8
Nutritional interventions: increase body weight/grade of recommendation

ESPEN Guide
Dorothee V
Sabine Goisser, I
Corn

WE NEED YOUR VOTE

of a multimodal and dietary intake, maintain or (BM)

on in Geriatrics
17
Cruz-Jentoft,
Ve Raynaud-Simon,
r Wirth