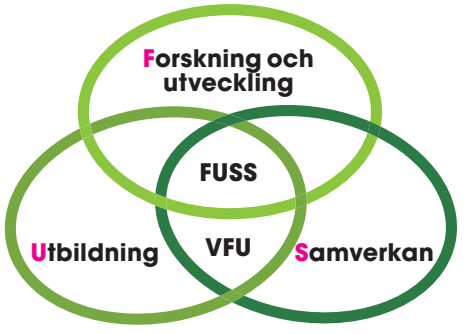
Forskargruppen PRO-CARE (Clinical Assessment Research & Education), tidigare Klinisk Patientnära Forskning med studentmedverkan I focus bedriver sedan år 2005 forskning med inriktning mot patientsäkerhet och har bas vid Högskolan Kristianstad, Sektionen för Hälsa och Samhälle.

Målsättningen med PRO-CARE är att underlätta arbetet med patientsäkerhet, och samtidigt bereda väg för en bättre vetenskaplig förståelse och vetenskaplig förankring i den verksamhetsförlagda utbildningen för sjuksköterskestudenter. Metodiken som används syftar till att förena högskolans tre primära uppgifter; forskning, utbildning och samverkan.

Under åren som gått har studenter medverkat i flera forskningsprojekt under den Verksamhetsförlagda utbildningen, resultat har återförts till verksamheterna och vetenskapliga artiklar har producerats. Studierna går under benämningen "FUSS" som står för "Forskning, Utbildning och Samverkan i Sjuksköterskeutbildningen".



PRO-CARE

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Nummer 42 2015

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Summary

This report describes the procedure for translation and cultural adaptation of the Minimal Eating Observation and Nutrition Form – Version II (MEONF-II) from Swedish or U.K. English for use in other languages and countries, including adaptations from Swedish and U.K. English to other Swedish (e.g., Finland) and English speaking regions (e.g., United States, Canada, Australia), respectively. The prescribed methodology is based on the dual-panel approach for patient-reported rating scales, but modified for clinical assessment tools used by health care professionals. The approach emphasises the importance of achieving conceptual rather than linguistic equivalence, as well as ease and immediacy of the translation. The procedure comprises three main steps: (1) A panel of 3-7 bilingual health care professionals work together to produce a first draft target language version; (2) Review the first draft target language version by a second panel of 3-7 monolingual nurses and/or final year student nurses native in the target language; (3) Clinical field-testing of the new target language version by 15-30 hospital ward nurses/final year student nurses using the MEONF-II with at least five patients each to evaluate its user-friendliness and appropriateness. Following a written report including all major discussions and difficulties experienced by the panels and during field-testing, there is a need for evidence of the equivalence of the translated MEONF-II relative to the original version, before it can be recommended for general implementation into clinical practice. This final step is not covered in any detail here, but only outlined in summary. The procedures described here provide an easy to follow step-by-step practically oriented manual to facilitate the production of high quality translations and adaptations of the MEONF-II into new linguistic and cultural settings. This will ease the process for nurses and others who are interested in implementing the MEONF-II as a means of improving nutritional care for hospital inpatients.

Content

Introduction

This document describes the procedure for translation and cultural adaptation of the Minimal Eating Observation and Nutrition Form – Version II (MEONF-II) from Swedish or U.K. English for use in other languages and countries.

The Minimal Eating Observation and Nutrition Form – Version II (MEONF-II)
The MEONF-II is a tool developed for screening of nutritional risk (Vallén et al. 2011; Westergren et al. 2011a, 2011b). It was developed to be used by nurses, as it typically is nurses who conduct initial nutritional screening. The MEONF-II is based on Swedish (SWESPEN 2006) and international (Kondrup et al. 2003; Locher et al. 2007) recommendations for detecting undernutrition risk, including unintentional weight loss, low body mass index (BMI)/short calf circumference and eating difficulties. The included eating difficulties (food intake, chewing/swallowing, energy/appetite) are based on the Minimal Eating Observation Form – version II (MEOF-II) (Westergren et al. 2011b). An additional assessment of the presence of clinical signs of undernutrition is also included. The MEONF-II yields a total score ranging from 0-8, where higher scores indicate higher risk for undernutrition. A score of 0-2 is interpreted as no or low risk for undernutrition, a score of 3-4 is considered a moderate risk, and a score ≥5 as high risk for undernutrition (Westergren et al. 2009).

The MEONF-II (Appendices 1 and 2) comes with a user manual (Appendices 3 and 4) that includes explanations and brief instructions on how to assess and score the respective items in order to ease and standardize its use. In addition, the MEONF-II links screening results to suggestions for nutritional treatment and care, as well as suggestions for specific interventions linked to deficits with the respective eating difficulties (page 2 of the MEONF-II; Appendices 1 and 2).

Studies have supported the validity of the MEONF-II compared to other nutritional screening instruments (Vallén et al. 2011; Westergren et al. 2011a, 2011b). It has shown a sensitivity of 0.61-0.73, specificity of 0.79-0.88, and an accuracy of 0.68-0.82 compared

to the 18-item Mini Nutritional Assessment (MNA), with values that generally have outperformed those from other similar tools such as the Malnutrition Universal Screening Tool (MUST) and the Nutritional Risk Screening 2002 (NRS 2002) (Vallén et al. 2011; Westergren et al. 2011a, 2011b). The inter- and intrarater agreement (per cent agreement and Gwet´s agreement coefficient) for the MEONF-II 2-category (no/low risk vs. moderate/high risk) and 3-category (no/low vs. moderate vs. high risk) classifications among hospital nurses have been ≥0.81. Inter- and intrarater intraclass correlations for the total MEONF-II score have been 0.92 and 0.84, respectively (Westergren et al. 2014). The user-friendliness of the MEONF-II has been shown to be high among registered nurses (Vallén et al. 2011; Westergren et al. 2011a) as well as among student nurses (Westergren et al. 2013). The average time taken to complete a MEONF-II assessment has been 5-12 minutes, with a tendency for student nurses to need somewhat more time (Vallén et al. 2011; Westergren et al. 2011a; Westergren et al. 2013).

Translation and adaptation procedure

The aim of the translation and adaptation procedure is to produce a target language version of the MEONF-II that is conceptually equivalent to the original Swedish and U.K. English language versions. The new language version should be appropriate for the target country and culture, and use natural and acceptable language and phrasing that is easily read and understood by nursing staff in the target country. In addition, the new target language version will ultimately need to demonstrate performance that is equivalent to the original version before it can be recommended for general clinical use. This latter process is, however, not covered in detail in the current document.

The translation and adaptation procedure is based on the dual-panel methodology originally suggested by Hunt et al. (1991) and later recommended by Swaine-Verdier et al. (2004). The method was originally intended for patient-reported rating scales, and within that context it has been shown to outperform the commonly used forward-backward translation procedure in terms of user preference and

acceptability of the resulting translation (Hagell et al. 2010). The dual-panel methodology emphasises the importance of achieving conceptual rather than linguistic equivalence of the translation. It is not always possible to find a "natural" translation for an item in a new language. When this is the case, a word or a phrase that describes an equivalent concept is sought. Translations also need to be expressed in common everyday language, in order to be acceptable to future users.

This manual prescribes a modification of the original approach, developed for clinical assessment tools that are used by health care professionals rather than as self-report questionnaires. The prescribed procedure should be used for any new translations or cultural adaptations of the MEONF-II. Note that this includes “within-language adaptations”, such as adapting the instrument from U.K. English for use in, e.g. the United States or Canada.

The procedure comprises the following main steps:

- Panel 1: Bilingual health care professionals working together to produce a first draft target language version.
- Panel 2: Monolingual nurses and/or final year student nurses (with the target language as their first language) to review the first draft target language version.
- Field-test: 15-30 nurses (varying ages and levels of nursing experience) and final year student nurses at different hospital wards (adult inpatients, mainly older people) use the new target language MEONF-II with at least five patients each to evaluate its user-friendliness and appropriateness.

Below follows a more detailed description of the procedures involved in each step.

Panel 1

The first panel should comprise up to seven (with a minimum of three) bilingual (target language and Swedish or U.K. English) health care professionals, and is to be led by a local investigator. Preferably, at least half of the panel should represent registered nurses, and a majority of the panel should be native in the target language.

The task of Panel 1 is to work as a team in a group meeting to produce a consensus first draft target language version of the MEONF-II. In

preparation for the group meeting, all panel members (translators) should be informed about the task of the panel, as well as of the purpose, development, and design of the MEONF-II, and be given a copy of the Swedish or U.K. English version (depending on what version they will translate from), including the MEONF-II manual (Appendix 3 and 4). They should also be informed of translation requirements, in particular conceptual equivalence, ease of understanding, and acceptability and unambiguousness of wording. Attention should be paid to avoid localized expressions and to ensure language is generic for the target country. It is important to bear in mind that since the MEONF-II was developed to be used by nurses, this is the target group that the translation should be developed for.

The panel meeting is to be organized in a relaxed atmosphere where no distractions are to be expected, and with refreshments available. The meeting is led by a local investigator together with a representative of the developers of the original MEONF-II. Having the group work with a MEONF-II developer serves the purpose of quality control and availability of first-hand expertise when discussing the purpose and meaning of various aspects of the assessment tool. The local investigator needs command of both languages to be in a position to monitor the whole process, make final decisions and produce a meaningful report. Alternative translations suggested by panel members are to be considered by the whole group. Any difficulties should be discussed within the panel and in view of the intentions of the MEONF-II until agreement is reached. If two or more alternative translations are considered equivalent, these should be left as alternatives for Panel 2 to consider.

The following agenda is recommended, and the meeting can be expected to last for about three to four hours, including short breaks:

- Introductions to get to know one another.
- Group leaders review the purpose of the meeting, emphasising the translation requirements (particularly issues regarding conceptual equivalence and acceptability of wording), as well as the purpose, development and content of the MEONF-II. Basic panel member background information (age, gender, profession, experience, linguistic background) is collected using an anonymous form (Appendix 5).

- The group discusses the MEONF-II item-by-item and section-by-section (including instructions, response categories, the MEONF-II manual, etc.) until agreement is reached. If alternative wordings are identified and considered equivalent, both should be recorded and forwarded to Panel 2. In case of uncertainties, these should also be documented and forwarded to Panel 2 for consideration. When alternative wordings or uncertainties are identified, these should be reviewed at the end of the session before making a final decision as to whether an unequivocal consensus can be reached. If this is not the case they should be forwarded to Panel 2 for consideration.
- Finally, the whole group reviews the suggested translation for consensus agreement.
- Before closing the meeting, the group is requested to briefly check the translations of other forms (Appendices 5-8) that are to be used in the following stages (Panel 2 and Field-testing) of the MEONF-II translation and adaptation process.

Additional aspects to consider by the local investigator (group leader) include:

- The local investigator should provide translations of other forms (Appendices 5-8) that are to be used in the MEONF-II translation and adaptation process. These are then to be checked, revised and agreed upon by Panel 1 at the end of the group meeting.
- The need for translation of the basic patient data form (Appendix 6) to be used during subsequent field-testing should be investigated in communication with the developers of the original MEONF-II.
- Ensuring that there are enough copies of the source MEONF-II version (Swedish or U.K. English, including the MEONF-II manual) available at the meeting.
- If possible, it is recommended that the group leader (local investigator) has an editable (e.g., in MS Word) version of the Swedish or U.K. English MEONF-II open on a computer and enter all the resulting translations directly into the document, while displaying the screen to the whole group via a projector.

In addition, main discussions should be noted for subsequent documentation of the translation and adaptation process.

- If necessary, additional follow-up of translation difficulties may be undertaken by, e.g. email or telephone after the group meeting. Note, however, that this should be kept to a minimum, and that any such communications should involve the whole group.

Panel 2

Once Panel 1 has agreed upon the translated version of the MEONF-II, the draft target language version should be submitted to a second panel for review. This panel should consist of up to seven (with a minimum of three) monolingual (in the target language) representatives of future users of the MEONF-II, i.e. nurses and final year student nurses. While it is recognised that monolingual participants may be difficult to identify, it is important that the panel members are typical of nurses speaking the target language, i.e., they should not have excess linguistic knowledge. As far as possible, there should be a balance between genders, ages and extent of professional experience. At least half of the panel should represent registered nurses. Other panel members may include final year student nurses. Other relevant health care professionals may also be considered but only to a limited extent.

The task of Panel 2 is to work as a team in a focus group meeting to review the draft target language MEONF-II version for appropriateness of wording, consider alternative wordings and uncertainties that may have been forwarded by Panel 1, and to suggest any changes they may think will enhance clarity and immediacy. Each item and section of the MEONF-II and the MEONF-II manual should be discussed within the panel until agreement is reached. This process allows a check on whether the appropriate concepts have been captured and if individual items, response categories and instructions are comprehensible and acceptable in content and wording. The group should not have access to the source (Swedish or U.K. English) version, but only the translated target language version of the MEONF-II. This is important because their assessment should not be affected by what they may think the translation should mean; rather, they should consider what it does mean and how it is perceived.

In preparation for the focus group meeting, all panel members should be informed about the task of the panel, as well as of the purpose, development, and design of the MEONF-II. While not necessary, they may also be given a copy of the draft target language MEONF-II version (including the MEONF-II manual) to familiarize themselves with in advance.

The panel meeting is to be organized in a relaxed atmosphere where no distractions are to be expected, and with refreshments available. The local investigator involved in the first panel should also work with Panel 2 to ensure that the original meaning of items and scale structure are maintained. This person should have access to the Swedish or U.K. English source version of the MEONF-II.

The following agenda is recommended, and the meeting can be expected to last for about two hours, including a break if necessary:

- Introductions to get to know one another.
- The local investigator reviews the purpose of the meeting, as well as the purpose, development and content of the MEONF-II. Basic panel member background information (age, gender, profession, experience, linguistic background) is collected using an anonymous form (Appendix 5, translated into the target language).
- The group discusses the MEONF-II item-by-item and section-by-section (including instructions, response categories, the MEONF-II manual, etc.) and suggest rewording where considered necessary until agreement is reached. In case Panel 1 has identified alternative wordings, these should be reviewed and recommendations should be made as to which version to use. Similarly, in case of uncertainties forwarded by Panel 1, these should also be discussed and resolved by Panel 2.
- Before closing the meeting, the suggested translation is reviewed by the whole group for consensus agreement.

Additional aspects to consider by the local investigator include:

- Ensuring that there are enough copies of the draft target language MEONF-II version (including the MEONF-II manual) available at the meeting.
- If possible, it is recommended that the group leader (local investigator) has an editable (e.g., in MS Word) version of the draft target language MEONF-II version open on a computer and enter all the resulting translation directly into the document, while displaying the screen to the whole group via a projector. In addition, main discussions should be noted for later documentation of the process.
- If necessary, additional follow-up of translation difficulties may be undertaken by, e.g. email or telephone after the group meeting. Note, however, that this should be kept to a minimum, and that any such communications should involve the whole group.

The whole translation procedure (Panels 1 and 2) should be reported in detail (see below) including all major discussions and difficulties experienced by the panels. In particular, any choices and changes made following the review by Panel 2 should be explained. This not only informs the instrument developers but also constitutes a thorough final review and translation quality assurance.

Field-testing
The target language MEONF-II version resulting from Panels 1 and 2 is then to be field-tested with its intended users in clinical practice as a final check regarding its appropriateness and user-friendliness.

Field-testing should involve 15-30 nurses/student nurses using the new target language MEONF-II version at hospital wards (adult inpatients, mainly older people). The test group may include both nurses and student nurses and should, to the extent possible represent varying genders, ages and levels of nursing experience. If student nurses are included, they should not constitute more than about two thirds of the total group of assessors.

Each participant is provided with the new target language MEONF-II version produced by Panels 1 and 2, and should read its instructions and the accompanying new target language MEONF-II user manual. Following this, a debriefing session with the local investigator should be offered to ensure that participants have understood how to use the MEONF-II and to clarify any uncertainties. Questions and uncertainties from the participants should be documented in order to provide an evidence base for future modifications to the MEONF-II instructions and user manual.

Next, each participant is equipped with a set of target language version MEONF-II scoring sheets to be used with at least five patients each. In addition, basic patient data should be collected (Appendix 6; translated into the target language). Patients should, to the extent possible represent varying ages (within the adult/older range), genders, diagnoses, disabilities and health statuses. Once the participating assessor has conducted the five or more assessments, s/he is required to provide basic personal background information (age, gender, experience) using an anonymous form (Appendix 7; translated into the target language), and to fill out an evaluation form addressing the appropriateness, user-friendliness and usefulness of the target language MEONF-II (Appendix 8; translated into the target language).

Reporting

A detailed report on the translation procedure is essential, and should be shared with the MEONF-II developers at the conclusion of the translation and adaptation project. The report should explain why changes in form or content were made, why some items, instructions or response categories were difficult to translate, where cultural issues have to be addressed, why (for example) a word cannot be directly translated, and other explanations of why "literal" translations (that may seem obvious to anyone with only an approximate knowledge of the language) are not suitable. "Rough" translations can be used to illustrate these points. Such explanations will be helpful for future use by the instrument developers. Experiences from and summaries of all data collected during the field-testing should also be included or provided separately, e.g. in spreadsheet format.

In addition to constituting a thorough final review and translation quality assurance, the report is an important tool for the users of the translated instrument in the subsequent validation phases. It identifies issues that may need to be tested further during subsequent studies and may help in identifying possible explanations if the tool or specific items should fail to function as expected.

Example report templates are available from the MEONF-II developers (procare@hkr.se), together with database spreadsheet templates for entering participant data from translation Panels 1 and 2, and data collected during field-testing.

Additional steps

Following translation and adaptation (Panels 1 and 2, and field-testing) there is a need for evidence of the equivalence of the translated MEONF-II relative to the original version, before it can be recommended for general implementation into clinical practice.

Although this manual does not cover this essential aspect, the procedure should essentially follow that used in the development and validation of the original Swedish MEONF-II (Vallén et al. 2011; Westergren et al. 2011a, 2011b; Westergren et al. 2013; Westergren et al. 2014). That is, the translated MEONF-II should be tested regarding sensitivity and specificity in relation to the 18-item Mini Nutritional Assessment Short-Form (MNA; Guigoz & Vellas 1999). In addition, it may also be tested in relation to other nutritional screening tools such as the Malnutrition Universal Screening Tool (MUST; Stratton et al. 2004). Furthermore, it is recommended that the association between MEONF-II total scores (and risk categories) and patients' dependence in activities of daily living (as documented using Katz's ADL index; Appendix 5), patient-reported general health, fatigue and depressed mood are documented. Finally, the inter- and intrarater agreement of the MEONF-II total score, as well as its resulting three (no/low vs. moderate vs. high risk) and collapsed two (no/low risk vs. moderate/high risk) risk category classifications should be documented.

Initiating translation and cultural adaptation of a new MEONF-II language version

Investigators interested in translating and adapting the MEONF-II into a new language version should follow the following steps before initiating the work:

- Contact the MEONF-II developmental team at procare@hkr.se
- Review this translation and adaptation manual
- Discuss any issues related to the translation and adaptation process with a representative of the MEONF-II developmental team
- Finalize the local translation and adaptation protocol and timeline together with a representative of the MEONF-II developmental team

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Appendices

1. MEONF-II, Swedish version

2. MEONF-II, U.K. English version

3. MEONF-II user manual, Swedish version

4. MEONF-II user manual, U.K. English version

5. Translation and adaptation panel member background information

6. Patient data form (for field-testing)

7. Field-test assessor background information

8. Field-test user evaluation form

MEONF-II, Swedish version

	Ange lämplig poäng i rutorna till höger i enlighet med manualen.		**POÄNG**
1	**Har ofrivillig viktförlust** (oavsett tid & omfattning)	Ja, viktförlust = 2 Ingen viktförlust = 0 Vet ej = 2	
2a	**BMI** är mindre än 20 (69 år eller yngre) **BMI** är mindre än 22 (70 år eller äldre) ***Längd/vikt kan ej erhållas, mät vadomkrets (2b)***	BMI = vikt (kg) / längd i kvadrat (m^2)	
2b	**Vadomkretsen** är mindre än 31 centimeter	Har lågt BMI *eller* liten / kort vadomkrets = 1 Annars = 0	
3	**Ätproblem** Matintag ☐ Svårt att upprätthålla bra sittställning vid måltid ☐ Svårt att hantera maten på tallriken ☐ Svårt att transportera maten till munnen	En/flera svårigheter = 1 Inga svårigheter = 0	
4	Sväljning/mun ☐ Svårt att tugga ☐ Svårt att hantera maten i munnen ☐ Svårt att svälja	En/flera svårigheter = 1 Inga svårigheter = 0	
5	Energi/Aptit ☐ Äter mindre än ¾ av serverad mat ☐ Nedsatt ork att fullfölja en hel måltid ☐ Nedsatt aptit	Ett/flera problem = 2 Inga problem = 0	
6	**Kliniska tecken** indikerar att risk för undernäring föreligger. Bedöm t.ex. kroppskonstitution, underhudsfett, muskelmassa, handgreppsstyrka, ödem (vätskeansamling i kroppen), blodprover (t.ex. S-Albumin).	Kliniska tecken indikerar risk = 1 Annars = 0	
	Summera observationerna 1-6 till en totalpoäng (min = 0, max = 8)	**SUMMA:**	

RISK FÖR UNDERNÄRING

☐ 0-2 poäng = ingen/låg risk ☐ 3-4 poäng = måttlig risk ☐ 5 poäng eller mer = hög risk

BMI-TOLKNING	*69 år eller yngre*	*70 år eller äldre*
☐ Undervikt	BMI <20	BMI <22
☐ Normalvikt	BMI 20-24.9	BMI 22-26.9
☐ Övervikt	BMI 25-29.9	BMI 27-31.9
☐ Fetma	BMI 30-39.9	BMI 32-41.9
☐ Svår/sjuklig fetma	BMI >40	BMI >42

Kommentarer:

☐

0-2 poäng
Ingen/låg risk

Upprepa riskbedömningen:

Sjukhus – en gång/vecka

Särskilt boende – en gång var 3:e månad

Ordinärt/eget boende – årligen

☐

3-4 poäng
Måttlig risk

- Dokumentera vätske-/kostintag i 2-3 dagar
- Ge näringsdryck eller motsv. eventuellt e-kost.
- Åtgärder vid ätproblem (se nedan)
- Om förbättring eller tillräckligt intag – ej orsak till bekymmer; om ingen förbättring – anledning till bekymmer – följ lokal policy och remiss till dietist

☐

5 poäng eller mer
Hög risk

- Remiss till dietist, nutritionsteam och följ lokal policy
- Förbättra/öka näringsintaget genom t.ex. e-kost, näringsdryck eller motsv (konsultera dietist)
- Åtgärder vid ätproblem (se nedan)
- Följ upp, uppdatera vårdplan

Upprepa riskbedömningen & uppdatera vårdplanen
Sjukhus – en gång/vecka och utskrivning
Särskilt boende – minst varje månad
Ordinärt/eget boende – minst var 2-3 månad

Alla riskkategorier:
- Behandla underliggande tillstånd och ge hjälp och råd om födoval, ätande och att dricka när så behövs.
- Dokumentera riskkategori (Ingen eller låg/Måttlig/Hög risk)
- Dokumentera kostbehov och följ lokala riktlinjer

Huvudmoment i ätprocessen	*Specifika åtgärder – kopplade till huvudmoment i ätprocessen*	*Generella åtgärder kopplade till ätprocessen*
Matintag • Upprätthålla bra sittställning vid måltid • Hantera maten på tallriken • Transportera maten till munnen	Anpassa bestick, glas, mugg. Konsultera sjukgymnast, arbetsterapeut.	Assistans / Matning. Träning. Artificiell nutrition. Anpassa måltidsmiljön (t.ex. skapa en lugn miljö). Reducera distraherande moment. Samtal och information.
Sväljning/mun • Tugga • Hantera maten i munnen • Svälja	Konsistensanpassa. Specifika sväljningstekniker och huvudpositioneringar. Konsultera person kunnig i dysfagi (vanligen logoped), dietist, tandhygienist/tandläkare.	
Energi/aptit • Äter mindre än ¾ av serverad mat • Nedsatt ork att fullfölja en hel måltid • Nedsatt aptit	Kosttillägg/näringsdryck. Energität kost. Planera andra aktiviteter så att ork finns att äta. Konsultera dietist.	

Fetma: Dokumentera förekomst av övervikt/fetma. Kontrollera underliggande orsaker innan behandling sätts in. Konsultera dietist.

MEONF-II U.K. English version

Please tick the appropriate boxes on the left and score according to instructions			SCORE
1	**Unintentional weight loss** (regardless of amount of loss and of whether recent or occurred over time)	Weight loss = 2 No weight loss = 0 Don't know = 2	
2a	☐ **BMI** is less than 20 (69 years or younger) ☐ **BMI** is less than 22 (70 years or older) ***If height/weight cannot be obtained, measure calf circumference (2b)***	BMI = weight (kg)/height squared (m^2) Low BMI or small calf circumference = 1	
2b	☐ **Calf circumference** is less than 31 centimetres	Otherwise = 0	
3	**Eating difficulties** Food intake ☐ Difficulty maintaining good sitting position during meals ☐ Difficulty manipulating food on plate ☐ Difficulty conveying food to mouth	One/more difficulties = 1 No difficulty = 0	
4	Swallowing/mouth ☐ Difficulty chewing ☐ Difficulty coping with food in mouth ☐ Difficulty swallowing	One/more difficulties = 1 No difficulty = 0	
5	Energy/appetite ☐ Eats less than ¾ of food served ☐ Lacks energy to complete an entire meal ☐ Poor appetite	One/more problems = 2 No problems = 0	
6	**Clinical signs** indicate risk of undernutrition. Assess e.g., body shape, subcutaneous fat, muscle mass, grip strength, oedema (fluid retention), blood tests (e.g. serum albumin).	Clinical signs indicate risk = 1 Otherwise = 0	
	Sum observations 1-6 into a total score (min = 0, max = 8)		**TOTAL SCORE:**

RISK OF UNDERNUTRITION

☐ 0-2 points = no/low risk ☐ 3-4 points = moderate risk ☐ 5 points or more = high risk

BMI INTERPRETATION	*69 years or younger:*	*70 years or older:*
☐ Underweight	BMI <20	BMI <22
☐ Normal	BMI 20-24.9	BMI 22-26.9
☐ Overweight	BMI 25-29.9	BMI 27-31.9
☐ Obesity	BMI 30-39.9	BMI 32-41.9
☐ Severe/morbid obesity	BMI >40	BMI >42

Comments:

☐

0-2 points
No or Low risk

Reassess:
- Hospital – once/week
- Long-term care facilities – every 3 months
- Home care – annually

☐

3-4 points
Moderate risk
- Document fluid/dietary intake for 2-3 days
- Give nutritional drink or equivalent, possibly energy diet.
- Interventions for eating difficulties (see below)
- If improvement or adequate intake: no cause for concern; If no improvement: cause for concern – follow local policy and/or refer to dietician

☐

5 points or more
High risk
- Referral to dietician, nutrition team and follow local policy
- Improve nutritional intake through e.g. fortified food, oral nutritional supplements (consult dietician)
- Interventions for eating difficulties (see below)
- Follow up, update care plan

Reassess & update care plan
Hospital – once/week and at discharge
Long term care facilities – at least monthly
Home care – at least every 2-3 months

All risk categories:
- Treat underlying condition and provide help and advice about food choices, eating and drinking when needed.
- Document risk category (No or low/Moderate/High risk)
- Document dietary needs and follow local guidelines

Main steps in eating process	***Specific interventions*** *Linked to main steps in eating process*	***General interventions*** *Linked to eating process*
Food intake • Maintaining good sitting position during meals • Manipulating food on plate • Conveying food to mouth	Adapt cutlery, glass, mug. Consult physiotherapist, occupational therapist.	Assistance. Feeding. Training. Artificial nutrition. Adapt mealtime environment (e.g., create a calm environment). Reduce distractions. Information.
Swallowing/mouth • Chewing • Coping with food in mouth • Swallowing	Adapt consistency. Specific swallowing techniques and head positions. Consult dysphagia expertise (usually speech therapist), dietician, dental hygienist/dentist.	
Energy/appetite • Eats less than ¾ of food served • Lacks energy to complete an entire meal • Poor appetite	Dietary supplement. Fortified food. Plan other activities to preserve energy for eating. Consult dietician.	

Obesity
Document overweight/obesity. Check underlying reasons before initiating therapy. Refer to dietician.

MEONF-II user manual, Swedish version

Bedömning av näringstillstånd: I första hand ska patienten/den boende vägas och mätas på morgonen, före frukost. Patienten/den boende bör endast vara iklädd underkläder. Om detta inte är möjligt kan uppgift om längd och vikt hämtas från journalen eller genom att fråga personen. Information om vikten ska dokumenteras minst veckovis (på sjukhus) eller månadsvis (särskilda boenden).

1. Ofrivillig viktförlust (oavsett tid & omfattning). Fråga dels patienten och granska även dokumentationen avseende viktutvecklingen. Fråga om han/hon märkt att kläderna börjat sitta löst, om ringar eller klockan verkar sitta löst. Fråga också om han/hon avsiktligt försökt gå ner i vikt.

2a. BMI räknas ut utifrån formeln: vikt (kg)/längd i kvadrat (m^2). Om inte längd och/eller vikt kan erhållas som grund för att beräkna BMI – mät istället vadomkrets.

2b. Vadomkrets mäts i centimeter. Mät vaden på det bredaste stället. Mät även över och under den bredaste punkten, för att säkerställa att den första mätningen gav det största måttet.

3-5. Ätproblem (3-5 nedan): Bedömningen görs i första hand genom att patienten/den boende observeras under en måltid. Om det ej är möjligt kan den göras genom intervju av patient/boende. Om en person har hjälpmedel/hjälp för att kunna äta, anges det att personen har problem (vid kommentarer). T.ex. om personen har gelékost p.g.a. sväljningssvårigheter anges att det föreligger sväljningssvårigheter, även om dessa ej är påtagliga eftersom kosten har konsistensanpassats.

3. Matintag

Upprätthålla bra sittställning vid måltid	Sitter självständigt och kan röra sig fritt.
Hantera maten på tallriken	Använder båda händerna, endast enstaka spill, har ej pet-emot-kant eller speciella bestick, använder traditionella bestick (inte sked till kött och potatis), delar själv maten och bred smörgås, ställer ifrån sig glas/kopp själv.
Transportera maten till munnen	Samordnar armar/bål/huvud när maten förs till munnen, behöver inte haklapp, hittar munnen utan problem, endast enstaka spill, ingen anpassning av redskap t.ex. mugg, sugrör.

4. Sväljning/mun

Tugga	Både "upp och ner" och roterande/malande tuggrörelser. Matens konsistens är inte anpassad. Kan bita av maten, drar inte av den. Förlorar inte mat ur munnen under tuggning.
Hantera maten i munnen	Maten förflyttas smidigt bakåt i munnen. Det finns ingen mat kvar i munnen efter måltiden. Kan prata mellan tuggorna.
Svälja	Ingen hosta under måltid som uppfattas som felsväljning. Smidig sväljningsrörelse när maten är färdigtuggad. Ingen paus eller extra koncentration innan sväljningen. Efter sväljningen är munnen i stort sätt tom.

5. Energi/aptit

Äter mindre än ¾ av serverad mat	Det förutsätts att portionen som serveras anpassats till personens behov (mängd och innehåll). Har ej sondmat/dropp till följd av otillräckligt matintag.
Nedsatt ork att fullfölja en hel måltid	Måltiden avbryts för att personen inte orkar fortsätta (avbryts ej p.g.a. mättnadskänsla).
Nedsatt aptit	Fråga i första hand personen själv; i andra hand, gör en egen skattning. Aptiten nu jämförs med hur hans/hennes aptit vanligen är.

6. Kliniska tecken. Indikerar att risk för undernäring föreligger. Bedöm t.ex. kroppskonstitution, underhudsfett, muskelmassa, handgreppsstyrka, ödem (vätskeansamling i kroppen), blodprover (t.ex. S-Albumin)

Totalpoäng: Notera att ofrivillig viktminskning ger 2 poäng liksom nedsatt energi/aptit. Detta eftersom det är känt att de är starkt förknippade med undernäring. **Tolkning av MEONF-II totalpoäng:**
0-2 Poäng = Ingen eller låg risk för undernäring
3-4 Poäng = Måttlig risk för undernäring
5 poäng eller mer = Hög risk för undernäring
När den initiala bedömningen är genomförd gå vidare med planering av åtgärder!

Högt BMI: (övervikt/fetma) utgör ej en del i bedömningen av risk för undernäring. Var observant på att även en person med övervikt/fetma kan ha risk för undernäring som kräver intervention.

MEONF-II user manual, U.K. English version

Assessment of nutritional status: The patient/resident should be weighed and measured, preferably first thing in the morning, before breakfast. The patient/resident should only be wearing light clothing. If this is not possible, information about height and weight can be obtained from the patient chart or by asking the person. Information about weight should be recorded at least weekly (in hospital) or monthly (in long-term care).

1. Unintentional weight loss (regardless of amount of loss and of whether recent or occurred over time). Ask the patient and also review documentation relating to weight history. Ask whether rings, watch, or clothes are beginning to fit loosely. Also ask whether the person is intentionally trying to lose weight.

2a. BMI is calculated according to the following formula: weight (kg)/height squared (m^2). If height and/or weight cannot be obtained to calculate BMI – measure calf circumference instead.

2b. Calf circumference is measured in centimeters. Measure the calf at the widest point. Also measure above and below the widest point, to ensure that the first measurement was the largest.

Eating difficulties (items 3-5 below): The patient/resident should preferably be assessed by observing the individual during a meal. If this is not possible the assessment may be carried out by interviewing the patient/resident. If a person has assistive devices/assistance to be able to eat, note that the person has special needs (under "Comments"). For example, if the person has a soft diet due to swallowing difficulties, state that swallowing difficulties are present, even if they are not evident since the consistency of the diet was modified.

3. Food intake

Maintaining good sitting position during meals	Sits independently and with unrestricted mobility
Manipulating food on plate	Uses both hands, only spills occasionally, does not have plate with inner lip or special cutlery, uses traditional flatware (not a spoon for meat and potatoes), cuts food and butters bread, puts down glass unassisted
Conveying food to mouth	Coordinates arms/trunk/head when food is conveyed to mouth, does not need a bib, finds mouth without problems, only spills occasionally, no adapted equipment such as mug or straw

4. Swallowing/mouth

Chewing	Both "up and down" and rotating/grinding chewing movements. No modification of food consistency. Able to bite off pieces of food, does not rip them off. Food does not fall from mouth while chewing.
Coping with food in mouth	Food is moved to back of mouth without problems. No food remains in mouth after meals. Able to talk between bites.
Swallowing	No coughing during meals that may be attributed to aspiration. Smooth swallowing movement when food is completely chewed. No delay or concentrated effort before swallowing. Mouth essentially empty after swallowing.

5. Energy/appetite

Eats less than ¾ of food served	It is assumed that portion size is adapted to individual needs (quantity and content). Patient does not have feeding tube/IV due to inadequate food intake.
Lacks energy to complete an entire meal	Meal is interrupted due to lack of energy to continue (not due to satiety).
Poor appetite	If possible, ask directly; if not, make an assessment. Appetite should be compared with the person's usual appetite.

6. Clinical signs. Indicate risk of undernutrition. Assess e.g. body shape, subcutaneous fat, muscle mass, grip strength, oedema (fluid retention), blood tests (e.g. serum albumin)

Total score. Note that unintentional weight loss gives 2 points, as do problems related to Energy/appetite, as it is known that they are strongly associated with undernutrition.

Interpretation of MEONF-II total scores

0-2 points = No or Low risk of undernutrition
3-4 points = Moderate risk of undernutrition
5 points or more = High risk of undernutrition

When the initial assessment is carried out, proceed by planning interventions!

High BMI (overweight/obesity) is not part of the assessment of risk for undernutrition. Please note, however, that overweight/ob

Translation and adaptation panel member background information

❒ Panel 1 ❒ Panel 2

Gender: ❒ Female ❒ Male

Age: _____ years

Profession: ❒ Registered nurse
❒ Final year student nurse
❒ Nurse assistant/Health care assistant/Nursing auxiliary
❒ Dietician
❒ Physician; specialty: _____
❒ Occupational therapist
❒ Physiotherapist
❒ Speech and language therapist
❒ Other: _____

Clinical experience in profession: _____ years

Current primary practice setting:
❒ Hospital ward
❒ Hospital outpatient care
❒ Community care
❒ Nursing home/residential care
❒ Academia
❒ Other: _____

Current specialty: _____

Experience in current specialty/primary practice setting: _____ years

First (native) spoken language:
❒ U.K. English
❒ Swedish
❒ Other: _____

Second spoken language:
❒ U.K. English
❒ Swedish
❒ Other: _____

Patient data form

Gender: ❒ Female ❒ Male

Age: _____ years

Height: _____ feet _____inches **OR** _____ m _____ cm

Weight: _____ stones _____ pounds **OR** _____ kg

Number of days since admission to hospital (including today): _____ days

Main reason for hospital admission

❒ Respiratory disease
❒ Cardiovascular disease
❒ Endocrine disease: ❒ Diabetes
❒ Haematological disease
❒ Dermatological disease
❒ Infection
❒ Gastrointestinal disease
❒ Neurological disease
❒ Kidney disease
❒ Orthopaedic
❒ Mental health problems
❒ Rheumatologic disease
❒ Trauma
❒ Urinary tract problems
❒ Ear, nose and throat disease
❒ Other:

(**Ask patient**:) In general, would you say your health is…?
❒ Excellent ❒ Very good ❒ Good ❒ Fair ❒ Poor

Katz' Index of Independence in Activities of Daily Living

Instructions: For each area of functioning listed below, tick the description that applies.
(The word "assistance" means supervision, direction, or personal assistance.)

BATHING *– either sponge bath, tub bath, or shower:*

- ❒ Receives no assistance (gets in and out of tub by self if tub is usual means of bathing)
- ❒ Receives assistance in bathing only one part of the body (such as back or a leg)
- ❒ Receives assistance in bathing more than one part of the body (or not bathed)

DRESSING *– gets clothes from closets and drawers; including underclothes, outer garments, and using fasteners (including braces, if worn):*

- ❒ Gets clothes and gets completely dressed without assistance
- ❒ Gets clothes and gets dressed without assistance except for assistance in tying shoes
- ❒ Receives assistance in getting clothes or in getting dressed, or stays partly or completely undressed

TOILETING *– going to the "toilet room" for bowel and urine elimination, cleaning self after elimination, and arranging clothes:*

- ❒ Goes to "toilet room," cleans self, and arranges clothes without assistance (may use object for support such as cane, walker, or wheelchair and may manage night bedpan or commode, emptying same in morning)
- ❒ Receives assistance in going to "toilet room" or in cleaning self or in arranging clothes after elimination or in use of night bedpan or commode
- ❒ Doesn't go to room termed "toilet" for the elimination process

TRANSFER:

- ❒ Moves in and out of bed as well as in and out of chair without assistance (may be using object for support such as cane or walker)
- ❒ Moves in and out of bed or chair with assistance
- ❒ Doesn't get out of bed

CONTINENCE:

- ❒ Controls urination and bowel movement completely by self
- ❒ Has occasional "accidents"
- ❒ Supervision helps keep urine or bowel control, catheter is used, or is incontinent

FEEDING:

- ❒ Feeds self without assistance
- ❒ Feeds self except for getting assistance in cutting meat or buttering bread
- ❒ Receives assistance in feeding or is fed partly or completely by using tubes or intravenous fluids

Field-test assessor background information

Gender: ❒ Female ❒ Male

Age: _____ years

Profession:

- ❒ Registered nurse
  - Clinical experience in nursing: _____ years
  - Current specialty: _____
  - Current primary practice setting:
    - ❒ Hospital ward
    - ❒ Hospital outpatient care
    - ❒ Community care
    - ❒ Nursing home/residential care
  - Experience in current specialty/primary practice setting: _____ years
- ❒ Final year student nurse

Do you have previous experience with nutritional assessments?

- ❒ No
- ❒ Yes, experience using (*tick all that apply*)
  - ❒ The Body Mass Index (MBI)
  - ❒ The Mini Nutritional Assessment (MNA; 18 items)
  - ❒ The Mini Nutritional Assessment Short-Form (MNA-SF; 6 items)
  - ❒ The Malnutrition Universal Screening Tool (MUST)
  - ❒ The Subjective Global Assessment (SGA)
  - ❒ The Patient-Generated Subjective Global Assessment (PG-SGA)
  - ❒ The Nutritional Risk Screening 2002 (NRS 2002)
  - ❒ Other: _____
  - ❒ Other: _____

Have you had specific training in nutrition and/or nutritional assessments?

- ❒ No
- ❒ Yes, please describe: _____

Do you have a special interest in nutrition and/or nutritional assessments?

- ❒ No
- ❒ Yes

Do you have special responsibility for nutrition and/or nutritional assessments at workplace?

- ❒ No
- ❒ Yes

User evaluation of the MEONF-II

Were the MEONF-II instructions (manual) easy to understand?

❒ Yes
❒ No; comments: .....
.....
.....

Were the MEONF-II items:

Easy to understand?

❒ Yes
❒ No; comments: .....
.....
.....

Easy to score?

❒ Yes
❒ No; comments: .....
.....
.....

Relevant?

❒ Yes
❒ No; comments: .....
.....
.....

Were the proposals for action in the MEONF-II (page 2 of the MEONF-II form):

Easy to understand?

❒ Yes
❒ No; comments: .....
.....
.....

Relevant?

❒ Yes
❒ No; comments: .....
.....
.....

Appropriate?

❒ Yes
❒ No; comments: .....
.....
.....

Does the MEONF-II appear to be a useful tool for routine clinical use?

❒ Very useful ❒ Quite useful ❒ Not very useful ❒ Not at all useful

Comments: ……

How does the MEONF-II compare to other nutritional tools that you are familiar with for identification of potential nutritional problems?

❒ More useful ❒ Equally useful ❒ Less useful
❒ Not experienced with other tools

Comments: ……

How helpful do you find the information from the MEONF-II towards providing good care compared to other nutritional tools that you are familiar with?

❒ More helpful ❒ Equally helpful ❒ Less helpful
❒ Not experienced with other tools

Comments: ……

What is your impression of the value of using the MEONF-II as an aid for education concerning nutrition?

❒ Very valuable ❒ Quite valuable ❒ Not very valuable ❒ Not at all valuable

Comments: ……

Suggestions for modification(s) of the MEONF-II due to potential ambiguities, linguistic problems, etc.:

Other comments: