Contents

Introduction................................................................................................................................................3

1. Structure of ENP .....................................................................................................................................3
   1.1 Part A: The nursing classification ENP ............................................................................................4
   1.2 Part B: Pre-combinations of terms from the ENP nursing classification ........................................10
   1.3 Part C: Practice Guidelines in ENP ..................................................................................................14
   1.4 (Further) development of ENP .........................................................................................................15
   1.5 Application of ENP ..........................................................................................................................22
   1.6 Linkages of ENP with other instruments ..........................................................................................22
   1.7 Dissemination of ENP .......................................................................................................................23

2. Changes of the versions ..........................................................................................................................24
   2.1 ENP versions 2.0 (Wieteck, 2004c) to 2.4 .......................................................................................24
   2.2 ENP version 2.4 to 2.5 (2008/2009) ..................................................................................................24
   2.3 ENP version 2.5 to 2.6 (2009 to May 2011) .....................................................................................25
   2.4 ENP version 2.6 to 2.7 (May 2011 to August 2012) .....................................................................27
   2.5 ENP versions 2.7 to 2.9 (August 2012 to August 2014) .................................................................28

3. Evidence grades of the ENP nursing diagnoses and practice guidelines ...........................................36

4. Definitions of the class terms in ENP .....................................................................................................39
   4.1 Definition of ENP nursing diagnoses ...............................................................................................39
   4.2 Definition: ENP characteristics .......................................................................................................41
   4.3 Definition: ENP-Ursachen .................................................................................................................41
   4.4 Definition: Resources .......................................................................................................................42
   4.5 Definition: ENP nursing outcomes ...................................................................................................43
   4.6 Definition: ENP nursing interventions ..............................................................................................46
   4.7 Normative time values in ENP ..........................................................................................................47

5. Quality of the ENP practice guidelines ................................................................................................48

6. Critical remarks ..................................................................................................................................50

Literature ...................................................................................................................................................51

Contact ...................................................................................................................................................54
Scientific Background

Introduction

The nursing classification ENP (European Nursing care Pathways) has been developed to illustrate the nursing care process within the context of the nursing documentation in standardised language. The major targets of adopting the standardised nursing language ENP as an instrument refer to improving the communication of healthcare professionals with one another, supporting process flows such as the transfer from one institution to another, the performance transparency of nursing. The structure of ENP supports nurses in their decision-making within the framework of the nursing care process by presenting up-to-date nursing knowledge. Furthermore, data will be generated through the use of standardised formulations for nursing documentation which can be used for hypothesis formation/examination within the context of nursing research and control procedures of nursing management as well as risk management. ENP is available as print version as well as database or implemented in software products. Due to the availability of the taxonomy in different languages (English, German, French, and Italian) within one database ENP can also be used in a multilingual team.

ENP can be be divided into three parts:
A) ENP... as a nursing classification system for a total of seven concept groups (see chapter 1.1)
B) ENP... as pre-combination of the elements of this nursing classification system (see chapter 1.2)
C) ENP ... as the practice guidelines developed from the pre-combination and the nursing classification (see chapter 1.3) which offer nurses professional support to illustrate the nursing care process by using standardised formulations, such as nursing diagnoses, characteristics, etiologies, resources, outcomes, and interventions.


1. Structure of ENP

The three different parts of ENP are described and its structures illustrated in charts in the following chapters. Part A in the figure shows the nursing classification system ENP. Part B illustrates how pre-combinations of elements of the nursing classification system lead, for example, to nursing diagnoses and intervention concepts. In part C in the figure it is illustrated how a nursing diagnosis develops to a nursing practice guideline through linkages with characteristics, etiologies, resources, nursing outcomes, and nursing intervention concepts. Currently, in version 2.9 there are 552 nursing practice guidelines defined. In the following text, the categorisation of ENP will be de-
scribed as nursing classification and nursing practice guidelines. In the overall figure, the connection between the three parts is shown.

**Figure 1: Hierarchical structure of the ENP classification system with parts A, B, and C.**

### 1.1 Part A: The nursing classification ENP

At this point, there will be a brief explanation on the principles of organisation theory. Generally, a classification is an organisation system which is based on the principle of class formation. A classification is a list of terms which normally shows a hierarchical structure. The term superordinate to all other terms in the classification is usually called top term and represents the all-comprehensive term. In ENP, the top term is called "Nursing knowledge/terms for the illustration of the nursing care process". The hierarchical term relations illustrate the relations between the super- and subordinate terms. Within the individual classes the classification system is hierarchically organised, as well. It spans the elements: group ➔ domain ➔ class ➔ category ➔ subcategory.

The group of nursing problems, for example, subdivides into four domains (nursing problems in the functional/physiological context, nursing problems in the emotional/psychosocial context, nursing problems with multi-dimensional risks, and environment-related nursing diagnoses). The domain "nursing problems in the functional/physiological context", for example, is divided into 11 classes, which are attributed to 67 categories. In the following table, the domains, classes, and categories of ENP nursing problems are listed. The subdivision of domains and classes is identical in the three groups of nursing diagnoses, outcomes, and interventions.
<table>
<thead>
<tr>
<th>Domain</th>
<th>Class</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Functional/physiological context</strong></td>
<td><strong>Personal hygiene/clothing</strong>&lt;br&gt;Ability to wash body as well as choose and dress appropriate clothes</td>
<td>Self-care deficit washing&lt;sup&gt;1&lt;/sup&gt;&lt;br&gt;Self-care deficit oral hygiene&lt;br&gt;Self-care deficit care of the nails, ears, eyes and the nose&lt;br&gt;Self-care deficit hair care&lt;br&gt;Dressing self-care deficit</td>
</tr>
<tr>
<td></td>
<td><strong>Breathing</strong>&lt;br&gt;Includes the respiratory functions of ventilation (inspiration and expiration, function of respiratory muscles), gas exchange between air and blood as well as the self-cleansing functions of the respiratory tract.</td>
<td>Ineffective self-cleansing function of the respiratory tract&lt;br&gt;Insufficient respiration&lt;br&gt;Risk of respiratory insufficiency&lt;br&gt;Risk for suffocation&lt;br&gt;Risk for aspiration&lt;br&gt;Risk of atelectasis/pneumonia&lt;br&gt;Risk of impaired respiration postoperatively</td>
</tr>
<tr>
<td></td>
<td><strong>Nutrition</strong>&lt;br&gt;Includes the activities, abilities, requirements and functions of human beings to take food with the purpose of growth, preservation, regeneration of tissue, and energy production.</td>
<td>Reduced food intake&lt;br&gt;Impaired swallowing&lt;br&gt;<strong>Imbalanced nutrition: less than body requirements</strong>&lt;br&gt;Risk of malnutrition&lt;br&gt;Impaired eating habits&lt;br&gt;Fluid volume deficit/electrolyte imbalance&lt;br&gt;Risk of impaired fluid and electrolyte balance&lt;br&gt;Risk of impaired breast feeding&lt;br&gt;Impaired breast feeding&lt;br&gt;Risk of nutritional related complications</td>
</tr>
<tr>
<td></td>
<td><strong>Elimination</strong>&lt;br&gt;Includes the activities, abilities, functions which relate to the elimination of urine (by filtration, collection, and excretion of urine) and defaecation (elimination of waste and undigested foods from the bowels including the function of the abdominal press.</td>
<td>Self care deficit micturition/defaecation&lt;br&gt;Impaired urination&lt;br&gt;Urinary incontinence&lt;br&gt;Impaired stool elimination&lt;br&gt;Self care deficit stoma care&lt;br&gt;Impaired stoma care&lt;br&gt;Risk of paralytic ileus&lt;br&gt;Risk of anuria / renal failure&lt;br&gt;Risk of infection of the organs of elimination</td>
</tr>
<tr>
<td></td>
<td><strong>Circulation</strong>&lt;br&gt;Includes activities, functions which ensure the blood supply of the body with adequate and necessary volume and pressure This includes the pumping functions of the heart, the blood vessel functions for the transport of blood through the body as well as functions for the preservation of arterial blood pressure.</td>
<td>Impaired cardiovascular function&lt;br&gt;Risk of impaired cardiovascular function&lt;br&gt;Risk of thrombosis&lt;br&gt;Risk of lung embolism&lt;br&gt;Risk of bleeding&lt;br&gt;Risk of allergic reaction/anaphylactic shock</td>
</tr>
<tr>
<td></td>
<td><strong>Exercise/mobility</strong>&lt;br&gt;Includes all activities and abilities of movement to change body positions or transfer from one place to another, locomotion in various forms such as walking, running.</td>
<td>Impaired movement&lt;br&gt;Impaired walking&lt;br&gt;Impaired sequence of movement/movement pattern&lt;br&gt;Risk for falls&lt;br&gt;Risk of contracture</td>
</tr>
</tbody>
</table>

<sup>1</sup> Self-care deficit washing is defined as follows: Limited or lacking ability to wash whole body or body parts at the sink or other washing facilities (ICF [d510] washing oneself, ICNP [10020935] washing). Each category is defined and is part of the assigned ENP nursing diagnosis.
<table>
<thead>
<tr>
<th>Domain</th>
<th>Risk of spasticity</th>
<th>Risk of paralysis</th>
<th>Risk of impaired mobility</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Relaxing/sleeping/resting</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Includes all activities and mental functions which are expressed in a periodical, reversible and selective physical and mental detachment from the immediate environment, in which a body enters a state of rest and bodily functions are reduced.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Tissue integrity</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Includes all activities, behaviours and functions, which influence or may influence the integrity of the body and/or the organs.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Metabolism</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Includes all functions of regulation of the required food components such as carbohydrates, proteins and fats as well as their conversion into energy as well as all other chemical conversion processes of the organism. This includes e.g. the glucose metabolism as well as the functions of hormone balance of the pituitary gland, thyroid, adrenal gland, etc.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Reproduction</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Includes all functions and activities which relate to fertility, pregnancy, birth, and lactation.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Body temperature</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Includes all functions and activities related to the regulation of body temperature.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Emotional/psychosocial context</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The domain includes all ENP practice guidelines which impair the personal development, participation and/or emotional and social health due to limitations (e.g. physical, environment-related), behaviours or other circumstances.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Feelings</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Includes all neurophysiological and neuropsychological processes, which are caused as a precursor of perception through stimulus response. Feelings may relate to pain or emotions such as boredom, fatigue, etc.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Perceptions</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Includes all processes and functions related to the specific mental functions of recognition and inter-</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Risk of sleep deficit
- Impaired sleep
- Impaired relaxation
- Risk of pressure points
- Risk of skin damage
- Risk of mucous membrane/skin damage
- Altered oral mucosa
- Risk of corneal damage
- Risk of impaired wound healing
- Impaired healing
- Risk of dislocation/luxation
- Risk for trauma
- Risk of swelling/oedema formation
- Risk of tissue damage
- Risk of infection/germ spreading
- Risk of hypo/hyperglycemia
- Risk of metabolic imbalance
- Metabolic imbalance
- Risk of impairment of health for mother and child
- Risk of unwanted pregnancy
- Impaired sex life
- Risk of hyper/hypothermia
- Pain
- Anxiety
- Impaired feeling
- Impaired comfort
- Feeling of boredom
- Personal suffering
- Exhaustion
- Risk of exhaustion
- Shame
- Impaired environmental interpretation syndrome
- Impaired body image
- Impaired self-concept/image
- Risk of disorder of consciousness

etc. also belongs to this class.
<table>
<thead>
<tr>
<th>Dimension</th>
<th>Description</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perception impairment</td>
<td>Interpretation of sensory stimuli (auditive, visual, gustatory, olfactory, tactile).</td>
<td>Perception impairment, Impaired consciousness.</td>
</tr>
<tr>
<td>Interaction</td>
<td>Includes any interrelated, mutual action of two or more persons, for which usually any kind of communication is used.</td>
<td>Risk of adequate/ineffective communication, Impaired communication, Risk of impaired interaction, Impaired interaction, Ineffective relationship, Risk of unfulfilled needs.</td>
</tr>
<tr>
<td>Behaviour/action</td>
<td>Includes all activities and physical reactions of a human being which can be observed and/or measured. All immediately observed actions are behaviours, which are externally observable expressions of a human being to his/her environment.</td>
<td>Impaired adjustment, Impaired behaviour, Impaired problem coping strategy, Harmful behaviour, Risk of self-injury/endangering others, Behaviour endangers self/others, Behaviour is self-injurious, Risk of ineffective therapy, Risk of unachieved health-related goals, Risk for suicide, Risk of escape.</td>
</tr>
<tr>
<td>Activity/daily routine/participation</td>
<td>Includes all actions/activities of a person's involvement in a life situation which focuses on carrying out tasks of a structured daily routine, such as organise leisure time, carry out household activities, etc. and/or relate to the social integration/participation and the associated perspectives.</td>
<td>Risk of self-care deficit, Impaired self-care, Impaired organisation of daily life/organisation of life, Impaired performance of activities, Impaired recreational activities, Self-care deficit housekeeping, Dependent care, Risk of dependent care, Impaired cognitive capacity, Impaired ability to make decisions, Impaired development, Risk of impaired development, Impaired future perspectives, Disturbed habits, Impaired quality of life, Impaired dying phase, Impaired self-esteem.</td>
</tr>
<tr>
<td>Personal development</td>
<td>Includes all activities, requirements and functions to get a realistic picture of the world and oneself to act and make decisions in one's own interest.</td>
<td>Impaired cognitive capacity, Impaired ability to make decisions, Impaired development, Risk of impaired development, Impaired future perspectives, Disturbed habits, Impaired quality of life, Impaired dying phase, Impaired self-esteem.</td>
</tr>
<tr>
<td>Knowledge</td>
<td>Includes all abilities and activities to gain and use information and knowledge and to apply these for the promotion of health as well as maintenance and restoration.</td>
<td>Lack of information/abilities, Impaired ability to process information.</td>
</tr>
<tr>
<td>Group</td>
<td>Includes activities, actions and ideas which relate to social norms such as religion, roles, beliefs, value systems and influence the own choices and decisions.</td>
<td>Risk of social exclusion, Risk of social isolation, Risk of financial/social ruin, Risk of occupational exclusion, Norm conflict, Role conflict, Impaired religious practice/beliefs, Self-care deficit.</td>
</tr>
<tr>
<td>Multidimensional risks</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The domain includes all ENP practice guidelines which lead to risks due to therapy/procedures, limitations (e.g. physical, environment-related) and/or other circumstances which affect the functional/physiological as well as the emotional/psychosocial area and cannot be clearly assigned to a class.

Includes all activities, treatments, therapies and (physical) changes which relate to a potential risk for own health.

Risk of complications: Primary disease/injury
Risk of complications: postoperative
Risk of complications: pathologic changes
Risk of complications: altered awareness
Risk of complications: dehydration
Risk of complications: heat regulation
Health risks

Environment-related nursing problems
The domain includes all ENP practice guidelines which do not relate to the care receiver, but to risks for his/her social environment.

Risk of damage to health for the environment
Includes all physical changes which are a potential threat of the person affected for his/her environment.

Risk of infection

N = 4
N = 21
N = 136

Table 1: Group of nursing problems divided into domains, classes, and categories

In 2006 (version 2.3), the pre-combined terms/concepts of the ENP nursing diagnoses were separated into the elements nursing problem and specification and a monohierarchial structure was created through clustering. This reorganisation enables data evaluation on different aggregation levels. The clustering of the nursing problems were realised in several steps by analysis of the inherent nursing concepts. The entire hierarchisation processes were conceptually driven and follow previously set rules based on the fundamental definition work of the domains, classes, etc.

Between 2007-2008 the segmentation and cluster formation of ENP nursing outcomes and interventions was carried out. This, as well, refers to monohierarchial structure. The nursing outcomes and interventions are hierarchically structured on the level of domains and classes as well as thematically structured according to the same structure as the nursing problems. On the level of categories there are abstractly formulated nursing outcomes and nursing intervention concepts. The structure of domains and classes in the three groups of nursing diagnoses, outcomes, and interventions has been harmonised. Example of the category of nursing problems: "self-care deficit personal hygiene", attributed category of nursing outcomes is "existing self-care ability personal hygiene", on the level of nursing interventions the category is "interventions of personal hygiene". Characteristics and etiologies have their own hierarchical structure. The terms/concepts are structured monohierarchically in ENP. Hierarchisation of ENP started in 2006 (version 2.3) with nursing problems. Since then ENP has been termed as nursing classification. An example from the current ENP version 2.9:

Nursing diagnoses (n=552)
Domain: Functional/physiological context
Class: Personal hygiene/clothing
Category: Self-care deficit personal hygiene
  Nursing diagnosis ...
  Category: Self-care deficit oral hygiene
  Nursing diagnosis ...

Nursing outcomes (n=1852)
Domain: Functional/physiological context
Class: Personal hygiene/clothing
Category: Existing self-care ability personal hygiene

Monohierachical classification systems are "strictly" hierarchical, ie terms are subordinate to only one top term. A subject area is structured from general to specific, by adding a further distinguishing feature to each hierarchy level.
The hierarchies developed are relevant for further development of ENP and for data evaluation and are invisible to the end user as well as of ENP book publications as the use of ENP for nursing practice lies in the horizontal structure (figure 1 part C).

The following table 2 shows the current number of items from each group of ENP. Each item exists only once in the system, but can be linked several times with the exception of the nursing diagnoses. Within the domains, classes and categories each element of a group has only one linkage to the next level. Each item has a definite ID number which doesn't change with a new version. In ENP, items are not deleted, but deactivated. This ensures that older nursing care plans with now invalid terms can still be viewed.

<table>
<thead>
<tr>
<th>Terms/concepts of the group</th>
<th>Number 2.5</th>
<th>Number 2.6</th>
<th>Number 2.7</th>
<th>Current 2.9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nursing</td>
<td>521</td>
<td>542</td>
<td>548</td>
<td>552</td>
</tr>
<tr>
<td>Characteristics</td>
<td>2230</td>
<td>2719</td>
<td>2905</td>
<td>3984</td>
</tr>
<tr>
<td>Etiologies</td>
<td>1799</td>
<td>2282</td>
<td>2426</td>
<td>3526</td>
</tr>
<tr>
<td>Resources</td>
<td>379</td>
<td>457</td>
<td>473</td>
<td>648</td>
</tr>
<tr>
<td>Nursing outcomes</td>
<td>1435</td>
<td>1683</td>
<td>1724</td>
<td>1852</td>
</tr>
</tbody>
</table>
### Table 2: Number of items of the ENP groups

<table>
<thead>
<tr>
<th>Nursing intervention</th>
<th>2494</th>
<th>2511</th>
<th>2558</th>
<th>2615</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intervention specifications</td>
<td>3652</td>
<td>4285</td>
<td>4461</td>
<td>4797</td>
</tr>
</tbody>
</table>

### Table 3: Number of elements from the group of ENP nursing problems, version 2.5 (April 2009) to version 2.6 (May 2011), version 2.7 (May 2012) and version 2.9 (May 2014)

<table>
<thead>
<tr>
<th>Domain</th>
<th>Class 2.5</th>
<th>Class 2.6</th>
<th>Class 2.7</th>
<th>Class 2.9</th>
<th>Category 2.5</th>
<th>Category 2.6</th>
<th>Category 2.7</th>
<th>Category 2.9</th>
<th>Precombined ENP nursing diagnoses 2.5</th>
<th>Precombined ENP nursing diagnoses 2.6</th>
<th>Precombined ENP nursing diagnoses 2.7</th>
<th>Precombined ENP nursing diagnoses 2.9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nursing problems in the functional/physiological context</td>
<td>11</td>
<td>11</td>
<td>11</td>
<td>11</td>
<td>66</td>
<td>67</td>
<td>67</td>
<td>67</td>
<td>259</td>
<td>275</td>
<td>279</td>
<td>278</td>
</tr>
<tr>
<td>Nursing problems in the emotional/psychosocial context</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>55</td>
<td>58</td>
<td>59</td>
<td>59</td>
<td>202</td>
<td>210</td>
<td>212</td>
<td>221</td>
</tr>
<tr>
<td>Nursing problems with multidimensional risks</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>8</td>
<td>9</td>
<td>9</td>
<td>59</td>
<td>54</td>
<td>54</td>
<td>50</td>
</tr>
<tr>
<td>Environment-related nursing problems</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Total: 4</td>
<td>21</td>
<td>21</td>
<td>21</td>
<td>21</td>
<td>124</td>
<td>134</td>
<td>136</td>
<td>136</td>
<td>521</td>
<td>542</td>
<td>547</td>
<td>552</td>
</tr>
</tbody>
</table>

### 1.2 Part B: Pre-combinations of terms from the ENP nursing classification

In ENP, elements of the nursing classification are pre-combined, i.e., the combination of individual terms and elements is considered in their whole form as a descriptor. The nursing diagnoses, for example, consist of a nursing problem (term from the level of categories from the group nursing problems) and a specification (terms from the group of characteristics, etiologies, or nursing interventions). Besides the nursing diagnoses, the nursing interventions are precombined in ENP, as well. The following chapters illustrate the procedure and structure of the pre-combination by means of examples.

#### 1.2.1 Pre-combined ENP nursing diagnoses

An ENP nursing diagnosis is created by the combination of a nursing problem from the monohierarchical structure of part A and a specification of the nursing problem by means of an etiology or characteristic.
Example 1 – group nursing problem:
Domain: Nursing problems in the functional/physiological context
Class: Personal hygiene/clothing
Category: Self-care deficit dressing
Nursing problem: impaired dressing/undressing:

For example, the pre-combined ENP nursing diagnosis "The patient is restricted in dressing and undressing due to a disturbed planning of action/movement and performance" is composed of the nursing problem "impaired dressing/undressing" and the etiology "disturbed planning of action/movement". The exemplary nursing diagnosis is assigned to self-care deficit dressing.

Example 2: "The patient is at risk of atelectasis/pneumonia due to reduced lung ventilation (dystelecstasy)"

Precombination:
The patient-- is at risk of atelectasis/pneumonia due to reduced lung ventilation

Figure 2: Precombination of an ENP nursing diagnosis

These two examples show how the ENP nursing diagnosis is composed out of the terms of the classification by precombination.

Each current ENP nursing diagnosis of version 2.9 received also a definition for an unambiguous application. This has been developed both for educational purposes as well as for nurses who do not know the nursing diagnostic concepts and to support and promote a common understanding. In general, the definitions are not required in daily use by trained nurses due to the granulation of the ENP nursing diagnoses, ie the level of detail, accuracy, and expressiveness, and the clear formulations which offer little room for interpretation. Below is an example to show the structure of an ENP nursing diagnosis definition.

00022 | The resident-- is unable to organise personal hygiene independently due to being disorientated

Definition:
Restricted or lacking ability to wash whole body or body parts at the washbasin or other washing facilities due to impaired mental function of self-perception (which is required to be able to orient to time, place, situation and/or person).

(ICF [d510] washing oneself, ICNP [10020935] washing, ICF b114 Orientation functions, ICNP Orientation [10013810] und Disorientation [10001235])
It becomes clear that in the definition the two concepts "unable to organise personal hygiene independently" and "disoriented" are addressed. It is attempted to describe and/or to explain the key elements of an ENP nursing diagnosis by the precise definition of terms used. During the development of definitions reference is made to already existing classification systems and other key nursing-relevant sources such as concept analyses. The literature used is indicated in each case.

If there is already a specification in the nursing diagnosis in the form of an etiology or a characteristic, the offered etiologies or related factors as well as the characteristics refer to the two components of the nursing diagnosis. Example:

**Characteristics**
- Is unable to wash him/herself
- Is unable to dry him/herself
- Flaccid paralysis of the affected side
- Spastic paralysis of the affected side
- ...

**Etiologies**
(Etiology in the title: hemiplegia/hemiparesis)
- Cerebral vascular accident
- Neurological disease
- Brain tumour
- ...

Figure 3: Reference points of the characteristics and etiologies of ENP

Nursing diagnoses for which it is helpful to state the impairment grade on the level of characteristics will be added with a Likert scale for impairment and dependency grades.

Example:

*The resident-- is impaired in transfer skills*

Characteristics:
- Impaired transfer ability from bed to the (wheel-/arm-) chair
- Impaired transfer ability from (wheel-/arm-) chair to the bed
- Impaired transfer ability from wheelchair to the toilet
- ...

And:

**Impairment level of the transfer**
Level 1: Independent transfer using aids
Level 2: Low impairment of transfer
By adding scaled severity grades for ENP nursing diagnoses regarding self-care deficits, it will be possible in the future to export the newly developed system for the classification of nursing care dependency from the nursing process documentation (Wingenfeld, Büscher, Gansweid, IPW Institut für Pflegewissenschaft an der Universität Bielefeld, & MDK WL Medizinischer Dienst der Krankenversicherung Westfalen-Lippe, 2008).

1.2.2 Pre-combined ENP nursing interventions

For the group of nursing interventions pre-combinations are created, as well. In contrast to the ENP nursing diagnoses the pre-combination consists here of different elements from the group of nursing interventions and the group of intervention specifications. The nursing interventions are assigned to intervention specifications. These can contain further information, for example, regarding frequency, grade of care of the person concerned during performance of the nursing intervention, number of required nurses, required aids or products, localisation/location referring to the intervention, and time data, etc.

The levels of pre-combined nursing diagnoses and nursing interventions (see figure) are created from the nursing classification system. These pre-combined nursing diagnoses and nursing intervention formulations are those which are used by nurses for the documentation of the nursing care process. The separation of ENP nursing classification elements from pre-combined elements is indicated by the horizontal grey line in figure 1, and the connections are illustrated by linking lines.

Subsequently, it will be shown how the nursing intervention concepts are assigned to guiding intervention specifications.

Example from the group of nursing interventions:

**Domain:** Nursing diagnoses in the functional/physiological context  
**Class:** Personal hygiene/clothing  
**Category:** Carry out personal hygiene  
**Subcategory:** Wash whole body individually  
**Wash body parts individually**  
Give individual support during shower  
Give individual support during bath  
**Carry out basal stimulating body wash according to Bobath**  

The intervention formulation "Wash parts of the body" is not concrete enough for an instruction in the context of the nursing care process planning. Details on issues such as the location, where personal hygiene is carried out and which level of support is needed, remain unanswered. Therefore, the ENP nursing interventions are specified further. Thus, a specific instruction for the individual adequate and sufficient performance of nursing care is established. The nursing intervention "Wash body parts individually", for example, is assigned to the following intervention specifications:
- Body part to wash
  - face/hands
  - arms
  - chest
  - back
  - legs
  - genital area
  - buttocks
- Indicate level of support
  - supervise
  - Help by supporting
  - Partially take over
  - Take over completely
  - Activate/guide
- Location of partial body wash
  - in bed
  - sitting at edge of the bed
  - at the sink
- Pay attention to peculiarities
  - observe rituals
- Indicate nursing product used
- Frequency/time

Basically, the following intervention specifications can be assigned to the nursing intervention formulations:
- Type of support
- Number of nursing personnel
- Care products used
- Localisation, where the body wash is to be carried out
- Interval information
- Time data
- Localisation of body region
- Aids required
- Professions involved in the treatment process

1.3 Part C: Practice Guidelines in ENP

In part C of the ENP structure (see figure 1), it will be explained how the practice guidelines from the different items of the groups are combined. Each practice guideline consists of items from the group of nursing problems (extended to nursing diagnoses through the intermediate step of pre-combination), etiologies, characteristics, resources, outcomes, and interventions (extended to guiding interventions through the intermediate step of pre-combination).

The etiologies and characteristics for a nursing diagnosis of an ENP practice guideline refer to the specification. This is a particularity of the structure of the ENP nursing diagnoses. There are also ENP nursing diagnoses which do not have any pre-combination of specification and nursing problem, but consist of the individual and the nursing problem only. By coding of etiologies and characteristics the nursing problems become nursing diagnoses and are generally rest categories for
nursing phenomena which could not have been developed as nursing diagnoses by pre-
combination. Pre-combinations are only developed when there are special intervention concepts 
for a particular nursing diagnosis. This way it is possible to provide "best practice" or "evidence-
based nursing" in the sense of a practice guideline.

By linking the class-spanning items which belong together from a research-based perspective, the 
horizontal structure of nursing practice guidelines are created. The relations between nursing diag-
noses, characteristics, resources, objectives, interventions, and intervention specifications are illu-
strated in the figure (see part C in figure 1) with the horizontal lines. On the emerging micro level the 
ENP development team speaks of an **ENP practice guideline**. It is a professionally sound and 
possibly evidence-based assignment of possible nursing outcomes and intervention concepts for 
remedy/relief of a nursing problem or a nursing diagnosis. The ENP developer also used the terms 
"modified practice theory" (Wieteck, 2003) or "nursing diagnosis related pathway" (Wieteck, 
2007a). Both descriptions are reflected in the term practice guideline.

An ENP practice guideline is defined analogously to the usual definitions of the general term "prac-
tice guideline" (Bölicke, 2001; Field & Lohr, 1992; Ollenschläger et al., 1999; Wieteck, 2009):

> An ENP practice guideline describes the systematically developed decision support for an 
adequate, sufficient approach based on current nursing knowledge for concrete nursing di-
agnostic problems. The ENP practice guidelines show the action and decision corridor in 
which nursing activity after placing an ENP nursing diagnosis is being meaningfully carried 
out.

The result of the meaningful combination of items to a practice guideline is the part of ENP which is 
used in nursing practice, is visible in a software application, and is individualised as a nursing 
pathway for each patient in the nursing care plan.

According to the ENP developers, these nursing practice guidelines represent the up-to-date nurs-
ing knowledge.

**1.4 (Further) development of ENP**

The development and further development of ENP is published in numerous book publications 
(Wieteck, 2003, 2004c, 2013; Wieteck, Berger, & Opel, 2007). The actual change documentation 
can be read in the regularly publishes Scientific Background to ENP. Below, the key development 
steps and the current strategies for further development are briefly outlined.
ENP is registered as standardised nursing classification by means of object identifier (OID)\(^3\) in German healthcare ("Deutsches Gesundheitswesen"). This allows data exchange between the different electronic patient/resident records. The information on ENP can be viewed at the homepage of the German Institute for Medical Documentation and Information (Deutsches Institut für Medizinische Dokumentation und Information, DIMDI) \(^4\).

1.4.1 Historical Retrospective

The development of ENP began in 1989 at a German nursing school with the key objective to harmonise the nursing process documentation and to develop appropriate educational guidelines. A group of nursing teachers from various nursing schools were involved during the development. Coinciding with the first publication of the ENP practice guidelines in 1994, the implementation of ENP as software began in a relational database.

- **Phase 1 (1989–1998) – inductive development**

Starting point of the inductive approach was the objective to harmonise the educational contents and the actual organisation of the nursing process planning.

In the context of practice guidelines for the apprenticeship for nurse practitioners, specific nursing situations (> 2138) with patients/residents/clients were used to create a nursing care plan. The nursing care plan was consented with the trainee and the nursing team and afterwards reflected in the teaching team. Formulations found and consented by the experts to illustrate the nursing situation in the form of nursing problems/diagnoses, outcomes, and interventions were additionally supported by literature and then cataloged (Wieteck, 2004c).

The inductive development phase was characterised by 4 key research questions.

1. Which nursing diagnoses are required in nursing practice to illustrate the individual nursing process and are thus as standardised formulations?
2. Which characteristics, etiologies, and resource formulations appear in which nursing diagnosis and should be offered as a standardised formulation?
3. Which aims are agreed upon (with the patient/resident) in the nursing process and are documented in the nursing care plan?
4. Which nursing interventions are chosen and can be illustrated with which standardised text blocks as guiding information? Which nursing interventions are discussed in the nursing literature and can be offered as standardised text blocks? (Wieteck, 2004c, S. 28-29)

The inductive development was methodically characterised by three phases:

A) **Qualitative, participating observation** of specific care situations were carried out in the context of practice guidelines with a trainee and a nursing teacher. During this nursing diagnostic

---

\(^3\) In the context of informatics so called "Object Identifier" are used as globally unambiguous and permanent identifier for a specific information object.

process, the different nursing diagnoses were identified, nursing interventions determined and formulated in a nursing care plan for the patient/resident. If possible, the description of the nursing care plans are based on the already known and described nursing concepts. If this was not possible, own concept analyses according to Walker/Avant were carried out (Opel, 2004).

B) Reflection of the nursing care plan with nursing practitioners and then in the teaching team in terms of a consensus and the illustration of the diagnostic process.

C) Comparison of the identified nursing diagnoses, outcomes and interventions with the literature and cataloging of the new found results (Wieteck, 2004c). The ENP development team calls this a modified practice theory - in other words, it represents a nursing diagnosis-related pathway. Today, the term "ENP practice guideline" is used.

According to the ENP developers, these nursing practice guidelines (situation specific or practice theories), today also called ENP practice guidelines, represent the up-to-date nursing knowledge. The development of nursing related pathways is based, as already mentioned, on the one hand on inductive methods, and on the other hand on literature work/analysis (Wieteck, 2004) as well as review by validation works.

The nursing care process like the process of the development of a nursing diagnosis-related pathway has been understood during the development of ENP as a hypothesis-generating process (Gordon; Bartholomeyczik, 2001, Schrems, 2003). The suggestions of Dickoff, James, and Wiedenbach and their definition of the "situation-producing theory" (Dickoff; James; Wiedenbach, 1968, S. 420-422) or "practice theory" (Walker/Avant, 1998), which already contain key components of the nursing process, such as the objective of nursing performances and the resulting intervention instructions, have been expanded during the development of ENP by the dimensions of nursing diagnoses with characteristics, etiologies, and resources with regard to the nursing process model. While Dickoff, James, and Wiedenbach place the practice theory as the last of the four-step theory formation process, ENP’s development team puts the modified "practice theory" as the second step of this process (see figure 3) (Dickoff et al. 1968). This is justified by the assumption that the nursing pathways/ENP practice guidelines, which are created by linking the nursing diagnoses with characteristics, etiologies and resources, develop hypotheses but do not yet constitute a theory.

Crucial to this assumption is that the developed hypotheses are considered as preliminary findings in the nursing field. The formulated hypotheses can be approved, rejected or modified through new findings. This process is reflected in a continual updating process of ENP.
The terms/concepts used in ENP are characterised by high complexity and granularity. In order to support clarity of the developed language, linguistic structures and definitions for the individual ENP formulations have been determined by the ENP development team over the course of the development process.

- **Phase 2 (1998 until today) – User feedback and validation for the further development of ENP**

Since 1994 ENP is updated in a database and can be implemented by different software products in an electronic patient/resident record for nursing process documentation. From the first application of ENP in an electronic nursing process documentation in 1996 (Deppmeyer, 1999; Wieteck, 2001) onwards, the user feedback will be evaluated as an important aspect of the further development of ENP until today (Wieteck, 2013). The implementation of ENP in a database ensured that
each term in ENP has a notation (i.e., unambiguous number or ID number) which, however, will not be printed in book publications for reasons of readability and lacking relevance.

Since 2001 validation work is carried out on ENP. The studies on content and/or criteria validity are another important part of the further development of ENP. A rough overview of existing validation works is provided in chapter 1.4.3.

- **Phase 3 (2005–2009) – The classification structure**

In the book publication of 2004, ENP has no separate taxonomy structure. Previously, the ENP practice guidelines were assigned to the activities of daily living (ADL). The hierarchisation was transferred step by step to the present classification structure. First, a taxonomy\(^5\) was developed for the ENP nursing diagnoses. The classification structure of the ENP nursing diagnoses was mentioned for the first time in an article (2006), here also ENP was referred to as nursing classification system for the first time (Wieteck, 2006a, 2006c). In 2006, ENP had seven classes, now called groups (nursing diagnoses, etiologies, characteristics, resources, outcomes, interventions and action-guiding instructions). The group of nursing diagnosis had at that time already a monohierarchical structure with 3 domains, 22 classes, and 128 categories. The other classes/groups such as etiologies, characteristics, etc. did not have a hierarchic structure, but terms/concepts are managed next to each other in the database. The concepts/terms of the classes had relations, i.e., linkages to the relevant nursing diagnoses (Wieteck et al., 2007). During 2007 and 2009 the individual groups were systematically and monohierarchically structured by clustering and converted into the present classification structure.

The realisation of ENP in the form of a database can be best described with terms of informatics and knowledge representation: with regard to its database presentation ENP can be termed as ontology\(^6\). In ENP, up-to-date nursing knowledge is presented through linkages (relations). The basis are the nursing diagnoses, characteristics, etiologies, resources, nursing outcomes, and nursing intervention concepts which are managed in a database. Without linkages to each other this would have little benefit for the user in terms of knowledge representation. For this reason, the above mentioned elements are structured in a database and linked to each other based on nursing knowledge. Finally, a complete set of information in terms of nursing knowledge in the form of practice guidelines is achieved from the fragmented pieces of information on the horizontal level. A semantic net is created through linkages which can be helpful for decision-making within the context of the nursing care process. In an electronic patient or resident record the formulations are used to realise the nursing process documentation. Additionally, ENP is linked with several other terminology systems and classifications (see chapter 1.6).

---

\(^{5}\) The term taxonomy (also called classification scheme) describes a unified model or theoretical construct according to which single elements/objects are classified and divided into categories by certain criteria.

\(^{6}\) Ontologies are descriptions of conceptualisations of a knowledge domain, in case of ENP it is the nursing knowledge for representation and control of the nursing care process. An ontology is a controlled vocabulary which formally relates objects and its descriptions and makes a statement on a special domain. Often, the term 'semantic net' is used for ontology.
• **Phase 4 (since 2008) – The translation of ENP as a continuous process**

ENP is available as a database in German, English, Italian, and French. Book publications in English, French, and Italian are still pending, however in the dissertation of Serge Haag the validity of ENP in French is described (Haag, 2009a). The Italian translation of ENP has begun with a thesis in the Master's program for specialist translations at the University of Bologna. Since then, Ms. Elisabetta De Vecchis leads the ENP translation into Italian as well as the validation works of the translation as a member of the ENP development team.

**1.4.2 Further development today**

Today, ENP is a nursing language with a monohierarchical structure providing nursing knowledge by means of practice guidelines. The graph below shows the systematic process of further development of ENP. A new database version will be provided annually. Book publications are generally published every two years.

---

**Figure 6: Process of the systematic further development of ENP**

Influenced by health policy decisions, user feedback and new scientific findings in nursing and related disciplines of healthcare it is decided annually which ENP practice guidelines are subject to a systematic review and if necessary a revision. A systematic literature review is initiated as a central methodological step for update and review, which is carried out based on the following scheme:

1. Specifying the revision strategy with the formulated question of the targeted literature search
2. Definition of the preferred publication type and evidence level
3. Determination of inclusion and exclusion criteria and the databases to be used (eg. Medline, CINAHL, The Cochrane Library).
4. Development of search terms and determination of specific search phrases
5. Carrying out of database searches
6. Screening and procurement of relevant literature
7. Evaluation of found publications and studies with regard to their quality (critical appraisal)
8. Revision of the ENP catalogue according to the findings and facts from the literature
9. Consensus of the results in the ENP development team as needed, also with consulted external experts in their fields
10. Validation of the revision through expert rating, a study or a clinical trial in nursing practice.

The following table shows as an example a small extract of the revision table of ENP nursing diagnoses of the subject area dysphagia, which were updated in 2014. The nursing diagnoses in the first column are of the category "Impaired swallowing". In the second column are all etiologies (pictured), characteristics, nursing outcomes, and nursing interventions, which exist in this category altogether. The numbers in the third column refer to those publications that confirm the existing link of an item (pictured in this care as an etiology).

<table>
<thead>
<tr>
<th>Urache</th>
<th>Ursachensubjekt</th>
<th>Ursachen</th>
<th>Einteilung</th>
<th>Einteilung</th>
<th>Einteilung</th>
<th>Einteilung</th>
<th>Einteilung</th>
<th>Einteilung</th>
<th>Einteilung</th>
<th>Einteilung</th>
<th>Einteilung</th>
</tr>
</thead>
<tbody>
<tr>
<td>09590</td>
<td>Veränderung der funktionellen Kontrolle</td>
<td>1+ 2+ 3+ 4+ 5+ 6+ 7+ 8+ 9+ 10+</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>921</td>
<td>Faktoren der Ernährung</td>
<td>1+ 2+ 3+ 4+ 5+ 6+ 7+ 8+ 9+ 10+</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>09585</td>
<td>Eingriffe</td>
<td>1+ 2+ 3+ 4+ 5+ 6+ 7+ 8+ 9+ 10+</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>09580</td>
<td>Wirkung der Medikamente</td>
<td>1+ 2+ 3+ 4+ 5+ 6+ 7+ 8+ 9+ 10+</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>09575</td>
<td>Interaktionen</td>
<td>1+ 2+ 3+ 4+ 5+ 6+ 7+ 8+ 9+ 10+</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>09570</td>
<td>Interaktionen</td>
<td>1+ 2+ 3+ 4+ 5+ 6+ 7+ 8+ 9+ 10+</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>09565</td>
<td>Interaktionen</td>
<td>1+ 2+ 3+ 4+ 5+ 6+ 7+ 8+ 9+ 10+</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>09560</td>
<td>Interaktionen</td>
<td>1+ 2+ 3+ 4+ 5+ 6+ 7+ 8+ 9+ 10+</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>09555</td>
<td>Interaktionen</td>
<td>1+ 2+ 3+ 4+ 5+ 6+ 7+ 8+ 9+ 10+</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>09550</td>
<td>Interaktionen</td>
<td>1+ 2+ 3+ 4+ 5+ 6+ 7+ 8+ 9+ 10+</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4: Section of a revision table of the ENP development team
With this approach it is possible to examine the differentiations of nursing diagnoses among each other and to support individual items with literature and studies – or to remove them according to the current state of knowledge.

The green highlighted fields show which content has been newly added, a green highlighted cross indicates that the diagnosis listed above has been newly linked with the etiology.

In the next step, the revisions were submitted to ten experts to evaluate the validity of the ENP practice guidelines through expert rating.

1.5 Application of ENP

Corresponding to the classification of terminologies into interface terminologies, reference terminologies, and administrative terminologies, ENP can be counted as interface terminology. Interface terminologies are intended for front-end use and should therefore be applied by the end users (nurses) in the direct care (Bakken, Cashen, Mendonca, O’Brien, & Zieniewicz, 2000) to realise the standardised nursing process and performance documentation.

The use of ENP is primarily intended for electronic patient records. For teaching purposes, for nursing schooling, or for training of nurses in nursing institutions which deal with the steps of the nursing care process, ENP can be a valuable benefit as the user is presented the up-to-date nursing knowledge through the linkages.

Implemented in a software the advantages of ENP become apparent, because patient data can be obtained quickly and efficiently and are available for evaluation purposes. The actual implementation and visualisation of ENP can be very different from software product to software product.

1.6 Linkages of ENP with other instruments

ENP is managed in a database for the implementation in software products. The notations (unambiguous numbering of items) are automatically allocated according to object-orientation within a class through the database management. Each item in the ENP system has an unambiguous coding within its group which remains stable and updated in further versions.

This notation allows the linking of the nursing classification system ENP to other instruments and classification systems. The previously linked instruments are:

- **ICD-10** and **OPS-Codes** for optimised coding of secondary diagnoses in hospital and support of DRG coding.
- **LEP Nursing 3** for the evaluation of time values
- **PPR** (Nursing staff regulation)
- **IDEA** (Interdisciplinary Data based Electronic Assessment), an interdisciplinary anamnesis catalogue used to determine the need for action. For nursing, relevant nursing diagnoses are derived from the assessment through the linkages to ENP.
- **Search terms**, search system for quick retrieval of nursing diagnoses.

---

7 An exemplary impression of the software implementation of ENP offers the homepage of the company RECOM GmbH under [http://www.recom.eu/klassifikationen/enp.html](http://www.recom.eu/klassifikationen/enp.html)
- **Criteria of the MDK** (the German Medical Review Board of the Statutory Health Insurance Funds), time values, grades of dependence.
- **Several assessment instruments**, such as the Braden Scale, the Tinetti Scale or the FIM Scale, suggest relevant ENP nursing diagnoses.
- **PKMS (nursing complex measures score) as well as other complex codes** for automatic support of documentation demands and code generation.

In various studies and practice tests linkages to the listen instruments could already be evaluated (Baltzer, Baumberger, & Wieteck, 2006; Gärtner, 2006, 2008; Schmid, 2007; Schütze, 2006).

### 1.7 Dissemination of ENP
ENP is currently (as of August 2014) used in numerous outpatient and (acute) inpatient healthcare facilities in Germany, Austria, Luxembourg, and Italy in electronic patient/resident records for the complete nursing process documentation. The following list provides a detailed picture of the electronic use of ENP:

**Germany:**
12 hospitals and more than 300 outpatient facilities and nursing homes use ENP is four different software products.

**Austria:**
17 hospitals, five outpatient nursing services as well as 20 nursing homes use ENP in two different software products. The outpatient nursing services in Austria can not be compared to those in Germany in terms of size. The five outpatient nursing services working with ENP have more than 3,000 employees of nursing care who carry out the nursing process documentation daily with ENP.

**Luxembourg:**
Three hospitals, one nursing home as well as the two largest providers of outpatient nursing services who cover about 90% of all patients in Luxembourg use ENP in two different software products. Also in Luxembourg the outpatient nursing services are different to those in Germany. The two outpatient nursing services employ more than 4,000 people of nursing working with ENP. Here, also the accounting positions were mapped with ENP to support accounting of services from the daily documentation.

In addition to the electronic use ENP is used in many institutions as well as for teaching as book publication for the hand-written nursing care planning.
2. Changes of the versions

In the following, the changes of the ENP versions will be described. In addition to the new nursing diagnoses listed below, also those diagnoses will be shown which where modified in meaning as a result of literature work and expert questioning. In addition to these diagnoses, numerous measures for standardisation were also carried out and suggestions from end users were continuously incorporated according to expert verification.

2.1 ENP versions 2.0 (Wieteck, 2004c) to 2.4

Not every version will be published in a book. In-between the book publications there will be additional interim versions in the ENP database. The practical test of ENP, for example, was carried out in several hospitals in 2005 using ENP version 2.3. After and during the practical test in Canton St Gallen major changes were carried out in ENP, which will be shown in the following.

ENP version 2.3 to 2.4
a) Hierarchisation on the level of nursing diagnoses, development of the ENP taxonomy to establish a monohierarchical structure used for data evaluation.

b) Hierarchisation works on the level of nursing outcomes, development of an outcome taxonomy.

c) Hierarchisation works on the level of nursing interventions.

d) Examination of nursing diagnoses regarding fluctuating abstraction levels and overlapping. In course of this work 41 nursing diagnoses were integrated into others from version 2.3 (n = 557 nursing diagnoses) to version 2.4 (n = 516 nursing diagnoses).

e) Support of ENP through further literature work. The sources used to support the practice guidelines from version 2.0 (n = 279) consisting of nursing literature, reference books and studies, to version 2.5 were increased to a total number of 520. International literature was increasingly used.

f) Work on gaps regarding completeness and level of detail found in practice tests, see for example (Kossaibati & Berthou, 2006).

2.2 ENP version 2.4 to 2.5 (2008/2009)

New included practice guidelines (n=14)

848 The resident/patient/client – has malnutrition due to an eating disorder
849 The resident/patient/client has malnutrition due to a cognitive impairment
851 The resident/patient/client is at risk of malnutrition due to cognitive impairment
850 The resident/patient/client is at risk of malnutrition
855 The resident/patient/client's well being is affected due to tube feeding
852 The resident/patient/client is unable to keep/can only with effort keep attention to the contra-lesional (=neglected) space or side of the body (=neglect)
853 The resident/patient/client is impaired in the ability to take up and process information
856 The resident/patient/client is impaired in the ability to acquire self-care competencies, risk of ineffective therapy
857 The resident/patient/client has pressure sore, there is difficult wound healing
858 The resident/patient/client has arterial ulcer, there is difficult wound healing
859 The resident/patient/client has venous ulcer, there is difficult wound healing
861 The resident/patient/client's well being is affected due to chronic wound
The resident/patient/client has **diabetic foot syndrome**, there is **difficult wound healing**

The resident/patient/client is at **risk of ineffective treatment** due to **lack of information/skills** associated with diabetes/hypo/hyperglycemia

**Extensively revised practice guidelines** (n=31)

The resident/patient/client has **malnutrition**

The resident/patient/client refuses food intake (food refusal), there is a **risk of malnutrition**

The resident/patient/client demonstrates **neglect of food intake**, there is a **risk of malnutrition**

The resident/patient/client suffers from **involuntary urine loss** due to an increased abdominal pressure (stress incontinence)

The resident/patient/client suffers from **involuntary urine loss** due to heavy imperative urgency (urge incontinence)

The resident/patient/client suffers from **involuntary urine loss** at regular times due to a full bladder (spontaneous reflex emptying)

The resident/patient/client suffers from urinary dribbling/involuntary urine loss due to a **chronic urinary retention**

The resident/patient/client has an intact urogenital tract and is **unable to avoid involuntary urine loss** (functional urinary incontinence)

The resident/patient/client is unable to carry out personal hygiene independently due to a **hemiplegia/hemiparesis**

The resident/patient/client is unable to wash independently due to restricted mobility

The resident/patient/client is unable to carry out personal hygiene independently due to a **hemiplegia/hemiparesis**

The resident/patient/client should avoid movement between the pelvis and torso due to an injury of the spinal column, there is a **personal hygiene self-care deficit**

The resident/patient/client is completely dependent on personal hygiene being carried out due to a measurable altered consciousness

The resident/patient/client does not perform personal hygiene adequately, a personal hygiene self-care deficit exists

The resident/patient/client is unable to carry out perineal hygiene as accustomed due to a wound in the genital area

The resident/patient/client's personal hygiene is impaired due to other reasons (rest category)

The resident/patient/client has a chronic wound, there is difficult wound healing

The resident/patient/client's wound is healing by second intention, there is a disturbance of wound healing

The resident/patient/client's wound is healing by first intention, there is a risk of impaired wound healing

The resident/patient/client is at **risk of complications** due to a blunt injury to the extremities

The resident/patient/client is restricted when eating due to a disturbance in sensation and reduced muscle innervation of one side of the face

The resident/patient/client is restricted when eating due to a reduced ability to close the mouth, partly digested foodstuffs fall out of the mouth

The resident/patient/client is restricted in independent nail care

The resident/patient/client is restricted in independent foot care

The resident/patient/client is restricted in independent hair care

**Deactivated practice guidelines:** (n=8)

The resident has a purulent, coated wound, risk of germ spreading

The resident/patient/client has an **elevated risk of skin damage** caused by the application of detergent substances

The resident/patient/client has an **elevated risk of inflammation of the eyes** due to germ spreading caused by body care performances

The resident/patient/client is **unable to wash hair independently**

The resident/patient/client has **long toe nails** and is unable to cut them independently

The resident/patient/client has **thick horny skin** at the feet and is unable to remove it independently

The resident/patient/client is restricted when drinking due to a reduced ability to close the mouth, fluid flows out of the mouth

The resident/patient/client is restricted when eating and drinking, **food particles collect in cheek pouch of the affected side**

**Literature used** (n=520)

2.3 ENP version 2.5 to 2.6 (2009 to May 2011)

**New ENP practice guidelines** (n=25)

The resident/patient/client has ineffective self-cleansing function of the lung (rest category)

The resident/patient/client is restricted in independent eye care (rest category)

The resident/patient/client is at **risk of atelectasis/pneumonia** due to other reasons (rest category)

The resident/patient/client is restricted in swallowing (rest category)

The resident/patient/client is at **risk of a fluid/electrolyte deficit** (rest category)

The resident/patient/client is at **risk of inadequate breast feeding** (rest category)

The resident/patient/client is **handicapped during breast feeding** (rest category)
The resident/patient/client's eating behaviour is inadequate (rest category)
The resident/patient/client is restricted in urination (rest category)
The resident/patient/client has ineffective bowel elimination (rest category)
The resident/patient/client is otherwise impaired during stomac care
The resident/patient/client is at risk of sudden infant death syndrome
The child aged older than 4 years defaecates without organic reasons (encopresis)
The relative/important person is unable to carry out self-care activities independently
The resident/patient/client has colonisation/infection of multi-resistant organisms, there is the risk of germ spreading
The resident/patient/client has hypertensive crisis due to an autonomic dysreflexia
The resident/patient/client is at risk of autonomic dysreflexia due to paraplegia
The resident/patient/client's daily organisation/life organisation is affected due to dementia
The resident/patient/client is at risk of ineffective treatment due to lack of information/skills associated with diabetes/hypo/hyperglycemia
The resident/patient/client is at risk of delayed development
The resident/patient/client's communication is restricted due to a language disorder
The resident/patient/client has dermatitis associated with elimination/incontinence, impaired wound healing
The resident/patient/client's activity level is low, risk of serious health problems

The new included rest categories were set up in co-operation with project hospitals. The categories are required because there are other nursing problem areas beside the specified, already pre-combined nursing diagnoses.

Extensively revised practice guidelines (n=30):
The resident/patient/client has a sexually transmitted disease, there is a risk of infection for the sex partner
The resident/patient/client has an infectious disease, there is a risk of spreading infection to the surrounding environment
The resident/patient/client has an unstable cardiovascular situation due to reduced cardiac output
The resident/patient/client is at risk of cardiovascular complications due to reduced cardiac output
The resident/patient/client is at risk of cardiovascular complications due to hypotonic circulatory changes
The resident/patient/client is at risk of cardiovascular complications due to hypotonic circulatory changes
The child aged older than 5 wets her/himself without organic reasons (enuresis)
The resident/patient/client is at risk of pressure sore (adjustment to the current expert standard)
The resident/patient/client receives parenteral feeding via infusion, there is a risk of nutritional related complications
The resident/patient/client receives enteral tube feeding, there is a reduction in food intake
The resident/patient/client is at risk of being under or over infused due to intravenous infusion therapy
The resident/patient/client is at risk of complications due to central venous catheter/infusion therapy
The resident/patient/client's independent daily organisation/organisation of life is restricted due to age-related reduction processes
The resident/patient/client's daily organisation/life organisation is affected due to a thought disorder
The resident/patient/client is impaired in the independent daily organisation/organisation of life due to disorientation
The resident/patient/client's daily organisation/life organisation is affected due to memory/thought disorders
The resident/patient/client is at risk of complications due to arterial access
The resident/patient/client's quality of drive is lowered, there is a risk of self-care deficit
The resident/patient/client's reference to reality is affected due to a psychotonic experience, there is a risk of self-care deficit
The resident/patient/client is impaired in structuring the daily routine, there is a risk of self-care deficit
The resident/patient/client is restricted in the organisation of life, there is a risk of self-care deficit
The resident/patient/client is restricted in organising daily life/daily routine independently due to disturbance of the self
The resident/patient/client is impaired in the daily organisation/organisation of life due to continual recurring thoughts which cannot be suppressed by logic/reason (compulsive thoughts)
The resident/patient/client is restricted in the independent daily organisation/organisation of life due to a handicap
The resident/patient/client is restricted in the organisation of life due to an ostomy (artificial opening for the bowels)
The resident/patient/client is restricted in organising recreational activities independently
The resident/patient/client demonstrates repeated self-injury behaviour, there is an impaired problem solving strategy/coping strategy
The resident/patient/client displays avoidance behaviour due to a lack of confidence in his/her own physical strength
The resident/patient/client is at risk of dermatitis associated with elimination/incontinence

Deactivated practice guidelines: (n=9)
The resident/patient/client is at risk of circulatory collapse during mobilisation procedures (merged into diagnosis "hypotension", ID 260)
The resident/patient/client has a CVC (central venous catheter) there is a risk of inflammation of the vein (merged into diagnosis ID 651)
The resident/patient/client has an intravenous cannula in situ, there is a risk of an inflammation of the vein (merged into diagnosis ID 651)
The resident/patient/client is at risk of being under or over infused due to intravenous infusion therapy (merged into diagnosis ID 651)
The resident/patient/client is at risk of ineffective treatment due to lack of information/skills associated with diabetes/hypo/hyperglycemia
The resident/patient/client has a fixation of the nasogastric tube, risk of skin irritation (merged into diagnosis ID 097)
The resident/patient/client has gastrointestinal pain due to tube feeding (merged into diagnosis ID 097)
The resident/patient/client has blood sugar fluctuations due to diabetes, there is a risk of hyperglycaemia or hypoglycaemia (merged into diagnosis ID 354)
2.4 ENP version 2.6 to 2.7 (May 2011 to August 2012)

The main reason for the development work between the versions 2.6 and 2.7 were two major projects with hospitals. On the one hand the illustration of "therapeutic care", on the other hand the specific characteristics of children's hospitals. Also, validation works led to revisions of some practice guidelines.

New ENP practice guidelines (n=11)

<table>
<thead>
<tr>
<th>Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>898</td>
<td>The resident/patient/client has dermatitis associated with elimination/incontinence, there is difficult wound healing</td>
</tr>
<tr>
<td>900</td>
<td>The resident/patient/client is at risk of not achieving health related aims due to a lack of information/skills associated with diabetes</td>
</tr>
<tr>
<td>902</td>
<td>The resident/patient/client displays motor and/or behavioural abnormalities when there are adjustment responses to the environment, impaired perception/sensory integration disorder</td>
</tr>
<tr>
<td>903</td>
<td>The resident/patient/client shows no reaction to stimuli, impaired consciousness</td>
</tr>
<tr>
<td>904</td>
<td>The resident/patient/client is at risk for irritations of the mucus membrane/dents due to a denture plate</td>
</tr>
<tr>
<td>905</td>
<td>The newborn baby is at risk of neonatal hyperbilirubinaemia</td>
</tr>
<tr>
<td>906</td>
<td>The resident/patient/client has renal impairment/kidney failure, there is a metabolic disorder</td>
</tr>
<tr>
<td>1017</td>
<td>The resident/patient/client is developmentally delayed</td>
</tr>
<tr>
<td>1033</td>
<td>The resident/patient/client is at risk of aspiration due to a lack of insufficient protective reflexes</td>
</tr>
</tbody>
</table>

Extensively revised practice guidelines (n=20)

<table>
<thead>
<tr>
<th>Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>522</td>
<td>The resident/patient/client's production of mother milk is impaired, risk of under feeding the baby</td>
</tr>
<tr>
<td>184</td>
<td>The resident/patient/client's ability to sit independently is impaired</td>
</tr>
<tr>
<td>712</td>
<td>The resident/patient/client's ability to change position in bed is impaired</td>
</tr>
<tr>
<td>160</td>
<td>The resident/patient/client is at risk of pressure sores</td>
</tr>
<tr>
<td>804</td>
<td>The resident/patient/client has limited independence when eating/drinking</td>
</tr>
<tr>
<td>842</td>
<td>The resident/patient/client is unable to perform self-care in nutrition independently due to the stage of development</td>
</tr>
<tr>
<td>849</td>
<td>The resident/patient/client has malnutrition due to a cognitive impairment</td>
</tr>
<tr>
<td>555</td>
<td>The resident/patient/client has malnutrition</td>
</tr>
<tr>
<td>851</td>
<td>The resident/patient/client is at risk of malnutrition due to cognitive impairment</td>
</tr>
<tr>
<td>608</td>
<td>The resident/patient/client's transfer skills are impaired</td>
</tr>
<tr>
<td>805</td>
<td>The resident/patient/client is at risk of complications due to a reduced body awareness</td>
</tr>
<tr>
<td>390</td>
<td>The resident/patient/client is at risk of complications due to a quantitative impaired consciousness</td>
</tr>
<tr>
<td>411</td>
<td>The resident/patient/client is unable to perceive/process environmental stimuli adequately, there is a risk of misinterpretation</td>
</tr>
<tr>
<td>412</td>
<td>The resident/patient/client has not developed skills and abilities for his age due to an impaired development of perception</td>
</tr>
<tr>
<td>537</td>
<td>The resident/patient/client is restricted in dressing and undressing due to a hemiplegia</td>
</tr>
<tr>
<td>529</td>
<td>The resident/patient/client is restricted in dressing and undressing due to other reasons</td>
</tr>
<tr>
<td>154</td>
<td>The resident/patient/client is at risk of kidney failure</td>
</tr>
<tr>
<td>234</td>
<td>The resident/patient/client is at risk of atelectasis/pneumonia due to reduced lung ventilation</td>
</tr>
<tr>
<td>359</td>
<td>The resident/patient/client is at risk of reduced lung ventilation</td>
</tr>
<tr>
<td>359</td>
<td>The resident/patient/client is at risk of complications due to a raised bilirubin</td>
</tr>
<tr>
<td>814</td>
<td>The resident/patient/client is at risk of social exclusion due to behaviours that breach the principles and valid standards of the community</td>
</tr>
<tr>
<td>815</td>
<td>The resident/patient/client has an altered social behaviour due to an altered parent-child relationship that breaches the principles of set standards, there is a risk of social exclusion</td>
</tr>
<tr>
<td>748</td>
<td>The resident/patient/client is at risk of delayed development due to separation from the parents/important person</td>
</tr>
<tr>
<td>838</td>
<td>The resident/patient/client is at risk of delayed development due to being premature</td>
</tr>
<tr>
<td>891</td>
<td>The resident/patient/client is at risk of delayed development</td>
</tr>
<tr>
<td>92</td>
<td>The resident/patient/client is restricted when eating due to hypotonic cheek/lip/mouth muscles</td>
</tr>
<tr>
<td>681</td>
<td>The resident/patient/client is restricted when eating due to chewing difficulties</td>
</tr>
<tr>
<td>87</td>
<td>The resident/patient/client often choking when eating, swallowing is impaired</td>
</tr>
<tr>
<td>90</td>
<td>The resident/patient/client often choking when drinking, swallowing is impaired</td>
</tr>
<tr>
<td>95</td>
<td>The resident/patient/client’s swallowing is impaired due to pressing of the tongue</td>
</tr>
<tr>
<td>96</td>
<td>The resident/patient/client is restricted when swallowing due to reduced/altered pharyngeal/oesophageal peristaltic movement</td>
</tr>
<tr>
<td>870</td>
<td>The resident/patient/client has other/multiple reasons for dysphagia</td>
</tr>
</tbody>
</table>
Deactivated practice guidelines (n=5):

- **811** The resident/patient/client is at risk of **social exclusion** due to an altered social behaviour that breaches the principles of valid social norms.
- **52** The resident/patient/client has an impaired swallow reflex, there is a risk of aspiration during oral hygiene.
- **88** The resident/patient/client has no swallow reflex, there is a risk of aspiration.
- **89** The resident/patient/client has no cough, pharyngeal reflex, there is a risk of saliva aspiration.
- **94** The resident/patient/client is restricted when eating due to a reduced ability to close the mouth, partly digested foodstuffs fall out of the mouth.

Literature used \( N = 1214 \)

The practice guidelines of that version level (2012) were supported on the basis of 1214 national and international literature sources, e.g. German rules and standards as well as recommendations such as expert standards, guidelines of the MDS (Medical Service of the Central Association of Health Insurance Funds), legal peculiarities like activities according to §87b etc.

### 2.5 ENP versions 2.7 to 2.9 (August 2012 to August 2014)

From the most recent revision phase originated three new major extensions with regard to the criteria of transparency, clarity, and comprehensibility for the nursing classification of ENP in addition to a comprehensive literature-based and systematical revision of about a fifth of all practice guidelines.

- The development of a definition for each ENP nursing diagnoses (compare chapter 1.2).
- Indication of the evidence level (LOE) for each nursing diagnosis based on the criteria of the NANDA International (see chapter 3).
- The documentation of the revision history for each practice guideline shows the number and time of revisions for each nursing diagnosis as well as each practice guideline.

The following section from the original German revision documentation of the ENP development team serves as an example of the class personal hygiene/clothing to illustrate the changes:

<table>
<thead>
<tr>
<th>Textart</th>
<th>ID-Nummer</th>
<th>ENP-Texte zur Pflegediagnose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Klasse</td>
<td>10.051</td>
<td><strong>Körperpflege/Kleiden</strong></td>
</tr>
<tr>
<td>Kategorie</td>
<td>10.468</td>
<td><strong>Selbstfürsorgedefizit Körperwaschung</strong></td>
</tr>
</tbody>
</table>

Figure 7: Section of a revision documentation of the ENP development team.
### New ENP practice guidelines (n=17)

<table>
<thead>
<tr>
<th>LOE with regard to the practice guideline</th>
<th>LOE with regard to the nursing diagnosis</th>
<th>Year of development</th>
<th>ID</th>
<th>ENP nursing diagnosis title 2.9</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOE 2.1</td>
<td>LOE 2.1</td>
<td>2014*</td>
<td>1080</td>
<td>The resident-- is at risk of impaired mobility</td>
</tr>
<tr>
<td>LOE 2.1</td>
<td>LOE 2.1</td>
<td>2014*</td>
<td>1072</td>
<td>The resident-- is impaired in well-being [nursing problem without specification]</td>
</tr>
<tr>
<td>LOE 2.1</td>
<td>LOE 2.1</td>
<td>2013*</td>
<td>1071</td>
<td>The resident-- is impaired in carrying out the activities of daily living</td>
</tr>
<tr>
<td>LOE 2.1</td>
<td>LOE 2.1</td>
<td>2013*</td>
<td>1070</td>
<td>The newborn baby has neonatal hyperbilirubinaemia</td>
</tr>
<tr>
<td>LOE 2.1</td>
<td>LOE 2.1</td>
<td>2013*</td>
<td>1068</td>
<td>The resident-- is at risk of impaired wound healing due to intertrigo</td>
</tr>
<tr>
<td>LOE 2.1</td>
<td>LOE 2.1</td>
<td>2013*</td>
<td>1067</td>
<td>The resident-- has electrolyte imbalance</td>
</tr>
<tr>
<td>LOE 2.1</td>
<td>LOE 2.1</td>
<td>2013*</td>
<td>1066</td>
<td>The resident-- has an allergic reaction, there is the risk of anaphylactic shock</td>
</tr>
<tr>
<td>LOE 2.1</td>
<td>LOE 2.1</td>
<td>2013*</td>
<td>1064</td>
<td>The resident-- has fluid volume deficit</td>
</tr>
<tr>
<td>LOE 2.1</td>
<td>LOE 2.1</td>
<td>2013*</td>
<td>1063</td>
<td>The resident-- is at risk of pulmonary complications due to surgery</td>
</tr>
<tr>
<td>LOE 2.1</td>
<td>LOE 2.1</td>
<td>2013*</td>
<td>1062</td>
<td>The resident-- has insufficient respiration</td>
</tr>
<tr>
<td>LOE 2.1</td>
<td>LOE 2.1</td>
<td>2012*</td>
<td>1041</td>
<td>The resident-- is at risk of complications due to tick bite</td>
</tr>
<tr>
<td>LOE 2.1</td>
<td>LOE 2.1</td>
<td>2012*</td>
<td>1040</td>
<td>The resident-- is at risk of delayed development due to physical/medical neglect</td>
</tr>
<tr>
<td>LOE 2.1</td>
<td>LOE 2.1</td>
<td>2012*</td>
<td>1039</td>
<td>The resident-- is at risk of delayed development due to psychological abuse/emotional neglect</td>
</tr>
<tr>
<td>LOE 2.1</td>
<td>LOE 2.1</td>
<td>2012*</td>
<td>1035</td>
<td>The resident-- is at risk of delayed development due to physical abuse</td>
</tr>
<tr>
<td>LOE 2.1</td>
<td>LOE 2.1</td>
<td>2012*</td>
<td>1038</td>
<td>The resident-- is at risk of delayed development due to a suspected sexual abuse/rape</td>
</tr>
<tr>
<td>LOE 2.1</td>
<td>LOE 2.1</td>
<td>2012*</td>
<td>1037</td>
<td>The resident-- is at risk of delayed development due to sexual abuse/rape</td>
</tr>
<tr>
<td>LOE 2.1</td>
<td>LOE 2.1</td>
<td>2012*</td>
<td>1037</td>
<td>The resident-- is at risk of physical abuse</td>
</tr>
</tbody>
</table>

### Extensively revised practice guidelines (n=112)

<table>
<thead>
<tr>
<th>LOE with regard to the practice guideline</th>
<th>LOE with regard to the nursing diagnosis</th>
<th>Systematic update</th>
<th>ID</th>
<th>ENP nursing diagnosis title 2.9</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOE 3.2</td>
<td>LOE 3.2</td>
<td>1989*, 1994, 2007, 2014</td>
<td>407</td>
<td>The resident-- is impaired in communication due to hypacusis (hardness of hearing)</td>
</tr>
<tr>
<td>LOE 2.1</td>
<td>LOE 2.3</td>
<td>1993*, 2004, 2007, 2014</td>
<td>186</td>
<td>The resident-- is impaired in the ability to walk</td>
</tr>
<tr>
<td>LOE 2.1</td>
<td>LOE 2.3</td>
<td>1992*, 1994, 2004, 2008, 2014</td>
<td>193</td>
<td>The resident-- is restricted when walking due to uncertainty in the use of walking aids</td>
</tr>
<tr>
<td>LOE 2.1</td>
<td>LOE 2.3</td>
<td>1990*, 2001, 2007, 2011, 2014</td>
<td>608</td>
<td>The resident-- is impaired in transfer skills</td>
</tr>
<tr>
<td>LOE 2.1</td>
<td>LOE 2.1</td>
<td>1989*, 1994, 2004, 2008, 2014</td>
<td>592</td>
<td>The resident-- is unable to move about in the wheelchair independently in the living space</td>
</tr>
<tr>
<td>LOE 2.1</td>
<td>LOE 2.3</td>
<td>2001*, 2004, 2008, 2014</td>
<td>648</td>
<td>The resident-- has restricted mobility due to reduced stamina/physical strength</td>
</tr>
<tr>
<td>LOE 2.1</td>
<td>LOE 2.3</td>
<td>1990*, 1994, 2004, 2007, 2014</td>
<td>179</td>
<td>The resident-- has limited mobility due to an amputation of a lower extremity</td>
</tr>
<tr>
<td>LOE 2.1</td>
<td>LOE 2.3</td>
<td>1991*, 1994, 2007, 2014</td>
<td>178</td>
<td>The resident-- has limited mobility due to a contracture</td>
</tr>
<tr>
<td>LOE 2.1</td>
<td>LOE 2.3</td>
<td>1993*, 1994, 2005, 2009, 2014</td>
<td>610</td>
<td>The resident-- is at risk of cardiovascular failure due to cardiac insufficiency</td>
</tr>
<tr>
<td>LOE 3.2</td>
<td>LOE 3.2</td>
<td>2005*, 2007, 2014</td>
<td>347</td>
<td>The resident--is restricted in taking medication independently, there is a risk of ineffective therapy</td>
</tr>
<tr>
<td>LOE 3.2</td>
<td>LOE 3.2</td>
<td>1989*, 2004, 2008, 2014</td>
<td>12</td>
<td>The resident--is unable to wash independently due to restricted mobility</td>
</tr>
<tr>
<td>LOE 3.2</td>
<td>LOE 3.2</td>
<td>1991*, 1994, 2004, 2008; 2014</td>
<td>22</td>
<td>The resident--is unable to organise personal hygiene independently due to being disoriented</td>
</tr>
<tr>
<td>LOE 3.2</td>
<td>LOE 3.1</td>
<td>1990*, 1994, 2004, 2008, 2014</td>
<td>7</td>
<td>The resident--is unable to carry out personal hygiene independently due to physical restrictions in coping with stress</td>
</tr>
<tr>
<td>LOE 3.2</td>
<td>LOE 3.2</td>
<td>1989*, 1994, 2003, 2007, 2014</td>
<td>18</td>
<td>The resident--is unable to carry out personal hygiene independently due to a hemiplegia/hemiparesis</td>
</tr>
<tr>
<td>LOE 3.1</td>
<td>LOE 3.1</td>
<td>1991*, 2004, 2008, 2014</td>
<td>13</td>
<td>The resident--is completely dependent on personal hygiene being carried out due to a measurable altered consciousness</td>
</tr>
<tr>
<td>LOE 3.1</td>
<td>LOE 3.1</td>
<td>201*, 2004, 2008, 2014</td>
<td>536</td>
<td>The resident--is unable to shower/bathe independently</td>
</tr>
<tr>
<td>LOE 3.2</td>
<td>LOE 3.2</td>
<td>1989*, 1994, 2003, 2007; 2014</td>
<td>63</td>
<td>The resident--is at risk of skin damage due to dry skin</td>
</tr>
<tr>
<td>LOE 3.2</td>
<td>LOE 3.2</td>
<td>1989*, 1994, 2004, 2011, 2014</td>
<td>84</td>
<td>The resident--is restricted when eating/drinking due to limited independence</td>
</tr>
<tr>
<td>LOE 3.2</td>
<td>LOE 3.2</td>
<td>2002*, 2004, 2008, 2014</td>
<td>554</td>
<td>The resident--demonstrates neglect of food intake (self-neglect), there is a risk of malnutrition</td>
</tr>
<tr>
<td>LOE 2.1</td>
<td>LOE 2.3</td>
<td>2003*, 2008; 2014</td>
<td>559</td>
<td>The resident--is at risk of developing obesity due to deficient dietary behaviour</td>
</tr>
<tr>
<td>LOE 3.2</td>
<td>LOE 3.2</td>
<td>2002*, 2008, 2014</td>
<td>562</td>
<td>The resident--is at risk of fluid deficit due to oligodipsia/adipsia (reduced/nonexistent thirst)</td>
</tr>
<tr>
<td>LOE 2.1</td>
<td>LOE 2.3</td>
<td>2009*, 2014</td>
<td>872</td>
<td>The resident--is at risk of fluid/electrolyte deficit</td>
</tr>
<tr>
<td>LOE 2.1</td>
<td>LOE 2.3</td>
<td>2008*, 2014</td>
<td>850</td>
<td>The resident--is at risk of malnutrition</td>
</tr>
<tr>
<td>LOE 2.1</td>
<td>LOE 2.3</td>
<td>2008*, 2014</td>
<td>851</td>
<td>The resident--is at risk of malnutrition due to cognitive impairment</td>
</tr>
<tr>
<td>LOE 3.2</td>
<td>LOE 3.2</td>
<td>2004*, 2007, 2008, 2014</td>
<td>558</td>
<td>The resident—refuses food intake (food refusal), there is a risk of malnutrition</td>
</tr>
<tr>
<td>----------</td>
<td>----------</td>
<td>------------------------</td>
<td>-----</td>
<td>--------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>LOE 3.1</td>
<td>LOE 3.1</td>
<td>2004*, 2008, 2014</td>
<td>555</td>
<td>The resident--has malnutrition</td>
</tr>
<tr>
<td>LOE 3.2</td>
<td>LOE 3.2</td>
<td>1990*, 2003, 2009, 2014</td>
<td>97</td>
<td>The resident--is receiving enteral tube feeding, there is a reduction in food intake</td>
</tr>
<tr>
<td>LOE 3.1</td>
<td>LOE 3.1</td>
<td>1989*, 2003, 2009, 2011; 2014</td>
<td>87</td>
<td>The resident--often chokes when eating, swallowing is impaired in the oral transport/pharyngeal stage</td>
</tr>
<tr>
<td>LOE 3.1</td>
<td>LOE 3.1</td>
<td>1989*, 2003, 2009, 2011; 2014</td>
<td>90</td>
<td>The resident--only chokes when drinking, swallowing is impaired in the oral transport/pharyngeal stage</td>
</tr>
<tr>
<td>LOE 3.2</td>
<td>LOE 3.2</td>
<td>2003*, 2006, 2014</td>
<td>132</td>
<td>The resident--does not reach the toilet in time due to impaired mobility, there is a risk of incontinence</td>
</tr>
<tr>
<td>LOE 3.2</td>
<td>LOE 3.2</td>
<td>2003*, 2006, 2008, 2012, 2014</td>
<td>130</td>
<td>The resident--has involuntary urine loss (mixed incontinence) due to detrusor overactivity and an insufficient sphincter apparatus</td>
</tr>
<tr>
<td>LOE 3.2</td>
<td>LOE 3.2</td>
<td>2006*, 2008, 2012, 2014</td>
<td>574</td>
<td>The resident--is unable to avoid urine loss with an intact urogenital tract (functional urinary incontinence)</td>
</tr>
<tr>
<td>LOE 3.2</td>
<td>LOE 3.2</td>
<td>1990*, 2003, 2008, 2012, 2014</td>
<td>134</td>
<td>The resident--has involuntary urine loss (stress incontinence) due to an insufficient sphincter apparatus with increased abdominal pressure (stress incontinence)</td>
</tr>
<tr>
<td>LOE 3.2</td>
<td>LOE 3.2</td>
<td>2003*, 2006, 2008, 2012, 2014</td>
<td>137</td>
<td>The resident--has involuntary urine loss (reflex incontinence) due to involuntary, un-inhibitable detrusor contractions</td>
</tr>
<tr>
<td>LOE 3.2</td>
<td>LOE 3.2</td>
<td>1990*, 2003, 2006, 2012, 2014</td>
<td>143</td>
<td>The resident--is at risk of a reduced frequency of defaecation (risk of constipation)</td>
</tr>
<tr>
<td>LOE 3.2</td>
<td>LOE 3.2</td>
<td>1991*, 2003, 2006, 2012, 2014</td>
<td>322</td>
<td>The resident--is at risk of an infection of the organs of elimination due to a suprapubic catheter</td>
</tr>
<tr>
<td>LOE 3.2</td>
<td>LOE 3.2</td>
<td>1990*, 1994, 2004, 2008, 2014</td>
<td>170</td>
<td>The resident--is unable to put on/take off the compression stockings independently, a self-care-deficit when dressing exists</td>
</tr>
<tr>
<td>LOE 2.1</td>
<td>LOE 2.3</td>
<td>2001*, 2004, 2007, 2014</td>
<td>530</td>
<td>The resident--shows no interest in clean/neat clothing, there is a risk of self-neglect of clothing/outer appearance</td>
</tr>
<tr>
<td>LOE 2.1</td>
<td>LOE 2.3</td>
<td>1991*, 1994, 2004, 2008, 2014</td>
<td>537</td>
<td>The resident--is restricted in dressing and undressing due to a hemiplegia</td>
</tr>
<tr>
<td>LOE</td>
<td>LOE</td>
<td>Year(s)</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>-----</td>
<td>-----</td>
<td>---------</td>
<td>-------------</td>
<td></td>
</tr>
<tr>
<td>3.2</td>
<td>3.2</td>
<td>1990*, 1995, 2004, 2014</td>
<td>The resident is unable to sleep throughout the night, there is a risk of sleep deficit</td>
<td></td>
</tr>
<tr>
<td>3.2</td>
<td>3.2</td>
<td>1990*, 1995, 2004, 2014</td>
<td>The resident is hampered when falling asleep, there is a risk of sleep deficit</td>
<td></td>
</tr>
<tr>
<td>2.1</td>
<td>2.1</td>
<td>2006*, 2009, 2014</td>
<td>The resident is restricted in the independent daily organisation/organisation of life due to age-related reduction processes (frailty syndrome)</td>
<td></td>
</tr>
<tr>
<td>2.1</td>
<td>2.3</td>
<td>2006*, 2010, 2014</td>
<td>The resident is impaired in the independent daily organisation/organisation of life due to disorientation</td>
<td></td>
</tr>
<tr>
<td>2.1</td>
<td>2.1</td>
<td>2006*, 2009, 2014</td>
<td>The resident is impaired in the independent daily organisation/organisation of life due to memory disorders</td>
<td></td>
</tr>
<tr>
<td>2.1</td>
<td>2.1</td>
<td>2006*, 2009, 2014</td>
<td>The resident is impaired in the independent daily organisation/organisation of life due to a thought disorder</td>
<td></td>
</tr>
<tr>
<td>2.1</td>
<td>2.1</td>
<td>1993*, 2003, 2009, 2014</td>
<td>The resident is at risk for falls due to Parkinson’s disease</td>
<td></td>
</tr>
<tr>
<td>2.1</td>
<td>2.1</td>
<td>2005*, 2007, 2014</td>
<td>The resident is at risk for falls due to an impaired balance when walking/standing/sitting</td>
<td></td>
</tr>
<tr>
<td>2.1</td>
<td>2.3</td>
<td>1993*, 2004, 2007, 2014</td>
<td>The resident is at risk of pressure sores</td>
<td></td>
</tr>
<tr>
<td>2.1</td>
<td>2.3</td>
<td>1991*, 1995, 2004, 2007, 2014</td>
<td>The resident withdraws from social events, there is a risk of social isolation</td>
<td></td>
</tr>
<tr>
<td>2.1</td>
<td>2.1</td>
<td>2001*, 2008, 2014</td>
<td>The resident is impaired in structuring of the daily routine, there is a risk of self-care deficit</td>
<td></td>
</tr>
<tr>
<td>2.1</td>
<td>2.3</td>
<td>2002*, 2008, 2014</td>
<td>The resident demonstrates a tendency to run away, there is a risk of self-harm</td>
<td></td>
</tr>
<tr>
<td>2.1</td>
<td>2.1</td>
<td>2003*, 2007, 2014</td>
<td>The resident is impaired in the spatial orientation due to balance disorder</td>
<td></td>
</tr>
<tr>
<td>3.2</td>
<td>3.2</td>
<td>2002*, 2005, 2008, 2014</td>
<td>The resident is at risk of self-injury/endangering others due to disorientation</td>
<td></td>
</tr>
<tr>
<td>3.2</td>
<td>3.2</td>
<td>2005*, 2008, 2014</td>
<td>The resident shows acute behaviour which endangers self/others</td>
<td></td>
</tr>
<tr>
<td>3.2</td>
<td>3.2</td>
<td>1990*, 2003, 2007, 2014</td>
<td>The resident has acute pain</td>
<td></td>
</tr>
<tr>
<td>3.2</td>
<td>3.2</td>
<td>2003*, 2007, 2014</td>
<td>The resident has chronic pain</td>
<td></td>
</tr>
<tr>
<td>2.1</td>
<td>2.3</td>
<td>1991*, 2004, 2007, 2014</td>
<td>The resident has pain of the musculoskeletal system</td>
<td></td>
</tr>
<tr>
<td>LOE 2.1</td>
<td>LOE 2.3</td>
<td>Year Range</td>
<td>Evidence</td>
<td>Description</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td><em><em>1991</em>, 2004, 2007, 2014</em>*</td>
<td>491</td>
<td>The resident-- has <strong>joint pain</strong> with <strong>functional/mobility restrictions</strong></td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td><em><em>1990</em>, 1994, 2004, 2009, 2014</em>*</td>
<td>354</td>
<td>The resident-- is at risk of <strong>hyperglycaemia</strong> or <strong>hypoglycaemia</strong></td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td><em><em>2003</em>, 2006, 2009, 2014</em>*</td>
<td>676</td>
<td>The resident-- has a <strong>chronic wound</strong>, there is <strong>poor wound healing</strong></td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td><em><em>1990</em>, 1994, 2004, 2009, 2014</em>*</td>
<td>354</td>
<td>The resident-- is at risk of <strong>hyperglycaemia</strong> or <strong>hypoglycaemia</strong></td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td><em><em>2003</em>, 2006, 2009, 2014</em>*</td>
<td>676</td>
<td>The resident-- has a <strong>chronic wound</strong>, there is <strong>poor wound healing</strong></td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td><em><em>2004</em>, 2008, 2014</em>*</td>
<td>703</td>
<td>The resident-- suffers from a <strong>state of agitation</strong></td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td><em><em>1991</em>, 2004, 2007, 2014</em>*</td>
<td>498</td>
<td>The resident-- is <strong>afraid of falling</strong></td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td><em><em>2004</em>, 2008, 2014</em>*</td>
<td>503</td>
<td>The resident-- suffers from <strong>homesickness</strong></td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td><em><em>1989</em>, 1994, 2004, 2008, 2014</em>*</td>
<td>39</td>
<td>The resident-- has a <strong>reduced/lacking chewing activity/flow of saliva</strong>, there is a risk of thrush and parotitis</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td><em><em>2005</em>, 2006, 2008, 2011, 2014</em>*</td>
<td>857</td>
<td>The resident-- has <strong>pressure sore</strong>, there is <strong>difficult wound healing</strong></td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td><em><em>2003</em>, 2008, 2014</em>*</td>
<td>622</td>
<td>The resident-- is at risk of an increased (extracellular/intravascular) <strong>fluid volume</strong></td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td><em><em>2003</em>, 2008, 2011, 2014</em>*</td>
<td>887</td>
<td>The resident-- is at risk of ineffective treatment due to lack of information/skills associated with diabetes/hypo/hyperglycaemia</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td><em><em>2006</em>, 2011, 2014</em>*</td>
<td>569</td>
<td>The resident-- has the risk of skin damage due to sensitive/thin skin</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td><em><em>2006</em>, 2009, 2014</em>*</td>
<td>383</td>
<td>The resident-- has an infectious disease, there is a risk of spreading infection to the surrounding environment</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td><em><em>2009</em>, 2014</em>*</td>
<td>894</td>
<td>The resident-- has colonisation/infection of multi-resistant organisms, there is a risk of germ spreading</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td><em><em>1989</em>, 2003, 2006, 2009, 2014</em>*</td>
<td>339</td>
<td>The resident-- has a secondary wound healing, there is a disturbance of wound healing</td>
</tr>
</tbody>
</table>

**Deactivated practice guidelines (n=13):**
As part of the revision the nursing diagnoses listed below have been merged or transferred to a new diagnosis.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>52</td>
<td>The resident-- has an impaired swallow reflex, there is a risk of aspiration during oral hygiene</td>
</tr>
<tr>
<td>88</td>
<td>The resident-- has no swallow reflex, there is a risk of aspiration</td>
</tr>
<tr>
<td>89</td>
<td>The resident-- has no cough, pharyngeal reflex, there is a risk of saliva aspiration</td>
</tr>
<tr>
<td>94</td>
<td>The resident-- is restricted when eating due to a reduced ability to close the mouth, partly digested foodstuffs fall out of the mouth</td>
</tr>
<tr>
<td>561</td>
<td>The resident-- is at risk of fluid deficit</td>
</tr>
<tr>
<td>654</td>
<td>The resident-- must eat a low protein diet due to a protein intolerance, there is a risk of dietary related complications</td>
</tr>
<tr>
<td></td>
<td>Description</td>
</tr>
<tr>
<td>---</td>
<td>----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>828</td>
<td>The resident-- is at risk of reduced lung ventilation</td>
</tr>
<tr>
<td>235</td>
<td>The resident-- has shallow breathing and is unable to perform active breathing exercises, there is a risk of atelectasis/pneumonia</td>
</tr>
<tr>
<td>249</td>
<td>The resident-- is unable to cough up due to a glottis closure defect, there is a risk of atelectasis/pneumonia</td>
</tr>
<tr>
<td>198</td>
<td>The resident-- has restricted freedom of movement due to external factors</td>
</tr>
<tr>
<td>206</td>
<td>The resident-- has impaired mobility due to pain on weight bearing</td>
</tr>
<tr>
<td>647</td>
<td>The resident-- has postoperative restricted mobility</td>
</tr>
<tr>
<td>490</td>
<td>The resident-- has joint pain including pain on initiation of movement</td>
</tr>
</tbody>
</table>

Literature used N=3545

The practice guidelines of the version 2.9 (2014) are supported on the basis of 3,545 national and international literature sources. Among them are German regulations, guidelines, and recommendations such as the national expert standards, etc., and several international guidelines have been considered. In total, 10,355 links to sources exist for the 552 ENP practice guidelines. Above all reference books or articles, which describe broad nursing phenomena, are repeatedly linked to ENP practice guidelines.
3. Evidence grades of the ENP nursing diagnoses and practice guidelines

For the ENP nursing diagnoses and practice guidelines the level of evidence was evaluated and established as part of the revisions in 2014. An important goal of the development was from the very beginning of the development process to establish comparability of evidence levels with those of other nursing classifications. Against this background the levels of evidence (LOE) of ENP are based on the classification criteria of NANDA International⁸, although this classification system can also be critically discussed. This ensures that the explanatory power of individual nursing diagnoses of various classification systems can be compared with each other. The following list shows the individual evidence levels of ENP in detail:

1. Development of a new practice guideline

The ENP practice guidelines are generally developed inductively, which means that the nursing practitioners working with ENP identify a gap. The path of development is the identification of a phenomenon in nursing practice. The development request will be implemented. The result will be consented with the nursing practice. Subsequently, the diagnosis will be included in the catalogue. Less frequently, the new development is excited by literature reviews. If this is the case, a development proposal is first being developed (see LOW 1.1/1.2/1.3) which is discussed with experts from clinical practice and evaluated by them.

1.1 Nursing diagnosis title only (development request)
The ENP nursing diagnosis is clearly clarified and supported by literature. The syntactical and structural requirements are examined. Similarly, overlaps are examined.

1.2 Nursing diagnosis title and definition (development request)
The ENP nursing diagnosis is clearly formulated, the definition is consistent with the title. The definition differs from the characteristics and the diagnosis title, and these components are not included in the definition. The diagnosis and definition are supported by literature references.

1.3 Nursing diagnoses and definition are added by nursing objectives and nursing interventions (development request)
The ENP practice guideline is in an early stage and made available to end users in software applications and jointly evaluated and improved.

In clinical nursing practice it may occur that an ENP practice guideline is made available to end users at an early state of 1.3 in the context of projects. In the official ENP catalogue as well as in book publications, however, only diagnoses will be listed which have at least reached the maturity level of 2.1.

---

⁸ The levels of evidence of NANDA-I can be viewed at the following internet address: http://www.nanda.org/nanda-international-level-of-evidence-criterial.html (Access: 25 June 2014)
2. Nursing diagnoses and practice guidelines included in the ENP catalogue and confirmed by international literature references, nursing practice and/or consensus studies

2.1 a) Diagnosis title, definition, characteristics, etiologies, and resources are supported by literature references
The nursing diagnosis, its definition as well as all characteristics, etiologies, and resources are confirmed by national and international literature.

2.1 b) Diagnosis title, definition, characteristics, etiologies, resources, and nursing outcome and interventions are developed for the nursing diagnosis and supported by literature references
In addition to literature support of the diagnosis title, definition, all characteristics, etiologies, and resources the nursing interventions and nursing outcomes are assigned to the nursing diagnosis and supported by literature.

2.2 Concept analysis of the nursing diagnosis
In addition to literature support of diagnosis title, definition, all characteristics, etiologies, resources, nursing interventions and outcomes, a concept analysis with a detailed literature review on the central nursing diagnostic concepts is carried out. The concept analysis supports the nursing diagnosis and the definition and includes the discussion and support of characteristics.

2.3 Consensus studies on existing diagnoses by experts
In addition to the literature support of all elements of the nursing diagnosis and practice guideline consensus studies are carried out with experts from the respective specialist area. The studies include expert's opinions, Delphi or cross mapping studies with other nursing classification systems as well as similar study designs with diagnostic content.

3. Clinically supported nursing diagnoses and practice guidelines (validation and verification)

3.1 a) Literature synthesis
Systematic literature analysis and evaluation of the nursing diagnosis and nursing intervention with documented and proven search strategy.

3.1 b) Literature synthesis and expert rating
Systematic literature analysis and evaluation of the nursing diagnosis and nursing intervention with documented and proven search strategy as well as subsequent expert rating (eg through surveys, conferences, etc.)

3.2 Clinical studies of nursing diagnoses and practice guidelines which can not be generalised to the general population
The study refers to the nursing diagnosis as well as all characteristics and etiologies that are related to the diagnosis. The studies can be qualitative or quantitative. Among those are also studies which examine the concurrent validity in the clinical context. The sample size is limited and not random (non-probabilistic).
3.3 Well-designed clinical studies with small sample sizes
The study refers to the nursing diagnosis as well as all characteristics and etiologies that are related to the diagnosis. A random sample (probabilistic sample) is used, but with a limited sample size.

3.4 Well-designed clinical studies with random sample of sufficient size which can be generalised to the total population
The study refers to the nursing diagnosis as well as all characteristics and etiologies that are related to the diagnosis. A random sample (probabilistic sample) is used, the sample size is sufficient to generalise the results to the total population.
4. Definitions of the class terms in ENP

In order to enhance clarity of the European Nursing care Pathways as nursing language and classification system, linguistic structures and definitions for the individual ENP groups have been determined by the ENP development team over the course of the development. These are presented in the chapters below.

4.1 Definition of ENP nursing diagnoses

An ENP nursing diagnosis is defined as follows:

A nursing diagnosis in ENP is the term nurses use, if possible, together with a person affected based on the systematic assessment/evaluation (assessment, nursing anamnesis physical examination) with regard to the health status and his/her mental, physiological and developmental state, or his reaction to health problems that provide the basis for decision-making regarding nursing outcomes and interventions that must be selected.

An ENP nursing diagnosis describes possible nursing diagnostic judgments in a standardised form. The elements of an ENP nursing diagnosis are a nursing problem and a specification. A small proportion of ENP nursing diagnoses, currently 13.6 % (n=75), contains no specification and serves as rest category if no provided pre-combined nursing problems with specification apply. A pre-combination of specification and nursing problem was conducted, if there are specific intervention concepts for the ENP nursing diagnosis. A nursing problem in ENP is defined as follows:

Nursing problems are actual impairments of the person affected which are due to his/her person or his/her environment. Or, there are risks which are related to the health status or the treatment of the person affected which he/she cannot cope with or eliminate and which restrict his/her independence and/or those of others. Psychological, environmental and developmental conditions or changes of the physiological health status as well as age-related restrictions can be the starting point of nursing problems. Professional action is required to determine the nursing problem, change into a nursing diagnosis and to positively influence the health status through planned care.

Gordon und Bartholomeyczik (2001) say that a nursing diagnosis consist of three essential elements, "[...] which are also termed as PES schema". These three components are: Health problems (P), Etiologic and related factors (E) [and] defining characteristics or cluster of signs and symptoms (S)". The group of nursing problems describe nursing problems on the level of the category which represent disjunctive features to which the nursing diagnosis terms are being attributed to. Due to the composition of an ENP nursing diagnosis out of a nursing problem and a specification, it already contains at least two essential elements of a nursing diagnosis as defined by Gordon & Bartholomeyczik (2001, p. 38). Within the diagnostic process the nurse chooses adequate characteristics and etiologies from ENP. The characteristics in ENP do not only refer to the nursing problem, but to the combination of the nursing problem and the specification.
The following table 5 presents exemplary ENP nursing diagnoses of the category 1.1 Personal hygiene/clothing and the category 1.1.1 Self-care deficit personal hygiene from the domain 1 nursing diagnoses: functional/physiological context, to clarify the difference between nursing problem (= category) and nursing diagnosis in ENP.

<table>
<thead>
<tr>
<th>Class</th>
<th>Category (= nursing problem)</th>
<th>ENP nursing diagnoses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>1.1.1 Self-care deficit washing</td>
<td>The resident/patient/client is unable to wash independently due to restricted mobility. The resident/patient/client is unable to carry out personal hygiene independently due to a hemiplegia/hemiparesis. The resident/patient/client is unable to carry out personal hygiene independently due to physical restrictions. The resident/patient/client is not allowed to exert himself whilst carrying out personal hygiene due to a reduced cardiac output, there is a self-care deficit personal hygiene. The resident/patient/client is unable to hold bathing articles due to restricted mobility, self-care deficit personal hygiene. The resident/patient/client is unable to organise personal hygiene independently due to being disorientated. The resident/patient/client should avoid movement between the pelvis and torso due to an injury of the spinal column, there is a personal hygiene self-care deficit. The resident/patient/client is completely dependent on personal hygiene being carried out due to a measurable altered consciousness. The resident/patient/client does not perform personal hygiene adequately due to self-neglect. The resident/patient/client is unable to carry out perineal hygiene as accustomed due to a wound in the genital area. The resident/patient/client is unable to carry out personal hygiene self-care independently due to stage of development. The resident/patient/client is unable to wash him/herself independently due to a sensory integration disorder. The resident/patient/client is unable to carry out personal hygiene independently due to other reasons. The resident/patient/client is unable to shower/bathe independently.</td>
</tr>
</tbody>
</table>

Table 5: Exemplary ENP nursing diagnoses from the category personal hygiene/clothing

The operationalisation of the self-care deficit personal hygiene presented here is determined by the development of the practice guideline. If during the development of the nursing practice guideline it is realised that there are eg particular intervention concepts for self-care deficit personal hygiene for patients with hemiplegia, the ENP nursing diagnosis will be further developed pre-combined. In a literature analysis which was created as part of the ENP development of the nursing diagnoses of the sub-category self-care deficit personal hygiene, it is shown that for the ENP nursing diagnoses listed in table 4 there are specific intervention concepts (Helmbold, 2010a).

So that the user of ENP is provided with differentiate and purpose-oriented intervention concepts, the already described structure of the ENP nursing diagnoses was chosen. The ENP nursing problems which don't have any specification serve as rest category which is converted by the nurse in a nursing diagnosis by coding characteristics and etiologies. These rest categories should only be
used, if no specific ENP nursing diagnosis is available for the existing individual patient/resident/client situation.

4.2 Definition: ENP characteristics

Any analysis of a concept inevitably leads to the defining characteristics of the term. To determine the meaning of a concept and the nursing diagnostic concept of eg the ENP nursing diagnoses, the determination of the characteristics is decisive which can represent the nursing diagnosis. In terminology, the characteristics are attributed to different meanings. “The entirety of the defined attributes of a concept at a given time is the sum of knowledge about this concept” (Arntz, Picht, & Mayer, 2004, S. 53 f). The knowledge of a concept helps to specify and define its meaning. Also, characteristics help to structure terms and to classify them in a taxonomy.

In nursing diagnostic process the characteristics become indicators for the determination of a nursing diagnosis (Gordon & Bartholomeyczik, 2001, S. 43 ff.). In the context of the development of the ENP nursing diagnoses the characteristics are used for the conceptualisation. In the following, the definition of the ENP characteristics will be presented.

**ENP characteristics** are indicators, symptoms and expressions of the person affected. These help to identify the nursing diagnosis/problems or to differentiate the nursing diagnosis/problem from each other. These indicators can describe symptoms, further features of the problem, biographic or historical, physiological or psychological indicators, a described verbal expression of the person affected regarding the problem, reported reactions of a human being or risk factors.

The ENP characteristics refer to the nursing problem included as well as the problem specification. The nursing diagnoses within a category can include general characteristics which refer to the nursing problem.

4.3 Definition: ENP-Ursachen

Etiologies can "be defined as terms for an incident or a number of incidents which cause an other incident (causality), the effect". Mittelstrass defines the concept of etiology in the Enzyklopädie Philosophie und Wissenschaftstheorie (Encyclopedia of philosophy and theory of science) on the basis of four etiology types according to Aristoteles, the modern cause-effect relations according to Humes and other philosophers (Mittelsträßer, 1996, S. 442). A similar understanding forms the basis of the definition of etiologies in the development of ENP. For further differentiation of the nursing diagnosis, etiologies are formulated if they are the cause of the health problem/condition and its maintenance (Brobst et al., 1997, S. 17 f., Gordon, 2001, S. 41).

In ENP etiologies are defined as follows:
ENP etiologies are causal and/or influencing factors which lead to the development of a nursing diagnosis and/or to its continuation. Etiologies/influencing factors can be the behaviour of the affected person, present or known illnesses as well as describable psychosocial or physical and cognitive restrictions. Etiologies/influencing factors can also result from the patient’s immediate environment, his socialisation and experiences.

Within the context of the nursing care process it is meaningful to be aware of the etiologies of nursing problems as they have often to be considered for intervention offers to eliminate or relieve a nursing problem. For example, there is a difference for the planning and selection of adequate nursing interventions, whether an individual is unable to wash himself/herself, because the etiology is due to the restriction of movement after surgery or an apraxia.

The understanding of etiologies in ENP also follows the philosophical analysis of the concept which gives the following differentiation (Hügli & Lübcke, 2001, S. 640 ff):

Etiologies as causal relation between etiologies and effect. Etiologies as chain of causation and causal relation means "this net of etiology and effect that is interlaced in the result".

Contributive etiologies are etiologies that are associated with a cause, but are not the single cause.

Major etiology is a cause that can be proven to be of major importance for the effect.

Constitutive etiology which is a necessary condition for the effect.

The different perspectives and distinctions of the concept 'etiology' are always formulated in ENP in relation to the nursing diagnoses. Of interest are the special relationships between the person’s identified health problems/conditions, its etiologies as well as the factors that maintain the problem. Each nursing diagnosis can be assigned to several etiologies. This means, that different etiologies can influence and/or cause the diagnosis. The formulated etiologies that have been selected during the diagnostic process provide a basis for the selection of adequate interventions.

The etiology formulations can be diseases (e.g. mania, right-sided heart failure, eating disorder, multiple sclerosis), motives for behaviour (e.g. need for self-affirmation, aversion to food intake, lack of interest, fear, sense of shame), conditions (e.g. confused state, prolonged loss of appetite, deformation at the soft palate, sucking weakness, dyspnea at exertion, lack of self-esteem, limited mobility) knowledge-/ information deficits (e.g. lacking knowledge on breast feeding, lack of access to information), socio-cultural influences (e.g. family dynamic factors, unemployment), habits/behaviour (e.g. ritualised compulsive behaviour, stool smearing, lack of activity, insufficient setting of boundaries), impaired interaction (e.g. speaks a different language), or restricted/impaired abilities (e.g. restricted cognitive abilities).

4.4 Definition: Resources

In ENP, the resources (abilities) of the person concerned are formulated in addition to the nursing diagnosis which are relevant for the selection of the nursing outcomes and nursing interventions.
An ENP resource is defined as follows:

**ENP resources** are descriptions of conditions, physical, mental and psychosocial abilities, behaviours and/or factors of the social environment which contribute to developing and supporting coping strategies and interventions which will reduce the health problems.

The development of the resources is always formulated against the background of extremely differentiated description and assessment of the health problem/condition from which the demand for health care is derived. Therefore, in terms of the selection of nursing interventions it is crucial to know whether the patient, who has a self-care deficit in personal hygiene, is able to sit or stand and/or is able to hold the facecloth by himself. The resource terms do not claim to be exhaustive in contrast to the other groups in ENP. Nurses are asked to add individual entries of resource formulations as part of the diagnostic process.

In ENP, the standardised resource formulations refer to behaviours, activity-promoting attitudes, support of the social environment or physiological conditions that help to develop and support coping strategies and interventions to address the health problems and to cope with (health) crises through use of personal and socially mediated resources (resilience).

### 4.5 Definition: ENP nursing outcomes

The nursing outcome should be met by targeted nursing care and the promotion of individual resources. Nursing outcomes should be realistic, achievable, verifiable, positively formulated and based on the nursing problem/diagnosis. A nursing diagnosis can be assigned to multiple possible outcomes. The nurse chooses one or many nursing outcomes depending on the patient's condition. ENP nursing outcome is defined as follows:

**ENP nursing outcomes** determine the nursing results which nurses and the person affected agree on and which will be achieved within an agreed time frame. The results expected are described in the form of actual conditions to be achieved in the future. The nursing objectives can refer to physical abilities, physiological parameters, knowledge, behaviours and personality traits, findings, emotional experience and subjective sensation as well as the identification of physical changes.

The use of nursing outcome for outcome measurement is possible. For this purpose, ENP nursing outcomes are linked with a five-point Likert scale to assess the grade of outcome achievement. There are different types of five-point scales. Common to all is that 5 means the outcome was achieved and 1 that the nursing outcome has not been achieved. Examples:

**ENP nursing diagnosis:** The patient—withdraws from social events, social isolation is impaired  
**Etiology:** Psychological illness  
**Characteristic:** Withdraws to his/her room  
**Nursing outcome:** Participates group activities without being asked

The nurse evaluates the grade of achievement of objectives on a five-point Likert scale. The evaluation criteria linked to assess the grade of achievement of outcome are:
The coding 1 would mean that the patient has not achieved the nursing outcome "Participates group activities without being asked" with regard to the nursing diagnosis (0 % achievement of objects). The coding "less" would mean that little approaches to the achievement of outcome are observable, "moderate" evaluation shows that there is a average achievement of objectives (26-50 %), "extensively achieved" is used if the outcome has been achieved by more than 50 % (51-75 % achievement of outcome) and "completely achieved" will be coded if the outcome has been achieved by 75 %.

Another type of scaling is realised in ENP by operationalised items of the outcome. For example, the three nursing objectives for personal hygiene are described in the following table.

### Scale sectioned in 5 Personal hygiene

<table>
<thead>
<tr>
<th>Value 5</th>
<th>Value 4</th>
<th>Value 3</th>
<th>Value 2</th>
<th>Value 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is able to wash and dry body independently</td>
<td>Is able to wash and dry body independently</td>
<td>Is able to wash and dry body independently by using aids and/or extended wash time (&gt; 15 Min.)</td>
<td>Is able to wash and dry body partly, nurse takes over body parts difficult to achieve</td>
<td>Is completely dependent on personal hygiene being carried out</td>
</tr>
<tr>
<td>Is able to wash and dry upper part of the body independently</td>
<td>Is able to wash and dry upper part of the body independently</td>
<td>Is able to wash and dry body independently by using aids and/or extended wash time (&gt; 7 Min.)</td>
<td>Is able to wash and dry body partly, nurse takes over body parts difficult to achieve</td>
<td>Is completely dependent on washing of upper part of the body being carried out</td>
</tr>
<tr>
<td>Is able to wash and dry face and hands independently</td>
<td>Is able to wash and dry face and hands independently</td>
<td>Is able to wash and dry face and hands with extended wash time (&gt; 3 Min.)</td>
<td>Is able to wash and dry face and hands partly, nurse has to refinish</td>
<td>Is completely dependent on washing of face and hands being carried out</td>
</tr>
</tbody>
</table>

Table 6: Five-step scale of ENP outcome for personal hygiene

Example from the class Breathing and category "Physiologic respiration"

### Scale sectioned in 5 Physiologic respiration

<table>
<thead>
<tr>
<th>Value 5</th>
<th>Value 4</th>
<th>Value 3</th>
<th>Value 2</th>
<th>Value 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>The subjectively perceived dyspnoea after/during physical activity is &gt;3 on the scale sectioned in 5 (1=maximal dyspnoea, 5=no dyspnoea). Source: Gillissen, A. et al. 2008</td>
<td>Senses normal/unmodified breathing activity during/immediately after physical activity</td>
<td>Senses little dyspnoea during/immediately after physical activity, which can be characterised by activation of auxiliary respiratory muscles</td>
<td>Senses severe dyspnoea during/immediately after physical activity, which can be characterised by activation of auxiliary respiratory muscles</td>
<td>Senses very severe dyspnoea during/immediately after physical activity which can be characterised by death anxiety, panic, cyanosis, activation of auxiliary respiratory muscles and/or nasal flaring</td>
</tr>
</tbody>
</table>

Table 7: Scale sectioned in five of ENP outcomes of the category physiologic respiration
A further example is from the class Feeling and the category “Painfree”.

<table>
<thead>
<tr>
<th>Scale sectioned in 5 Painfree</th>
<th>Value 5</th>
<th>Value 4</th>
<th>Value 3</th>
<th>Value 2</th>
<th>Value 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is painfree</td>
<td>Feels (no) pain, which was evaluated between 1-2 on the numeric scale</td>
<td>Feels pain, which was evaluated between 4-3 on the numeric scale</td>
<td>Feels pain, which was evaluated between 5-6 on the numeric scale</td>
<td>Feels pain, which was evaluated between 7-8 on the numeric scale</td>
<td>Feels pain, which was evaluated between 9-10 on the numeric scale</td>
</tr>
</tbody>
</table>

Table 8: Scale sectioned in 5 of the ENP outcomes of the class “Painfree”

The last example is from the class feeling, category “Demands adapted to abilities”

<table>
<thead>
<tr>
<th>Scale sectioned in 5 Demands adapted to abilities</th>
<th>Value 5</th>
<th>Value 4</th>
<th>Value 3</th>
<th>Value 2</th>
<th>Value 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>The physical demands expected for personal hygiene activities are in keeping with the actual physical abilities</td>
<td>The physical demands expected for personal hygiene activities are partly in keeping with the physical abilities, which is demonstrated by total exhaustion after personal hygiene activities</td>
<td>The physical demands expected for personal hygiene activities are not in keeping with the physical abilities, which is demonstrated by severely changed vital parameters with exceeding of limit values and/or pain, personal hygiene activities had to be interrupted several times</td>
<td>The physical demands expected for personal hygiene activities exceed the physical abilities, which is demonstrated by circulatory collapse, respiratory insufficiency or other crises, personal hygiene activities cannot be continued as planned</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 9: Scale sectioned in 5 of ENP outcomes from the category “Demands adapted to abilities”

Currently, 50 differentiated evaluation scales have been developed. The conversion of ENP nursing outcome into operationalised items is being continuously carried out. The aim is to develop further result indicators which serve as self-evaluation instruments for patients/residents/clients as well as measurement instrument for nurses. The result indicators developed so far are available in the software application or database.

To enable a standardised evaluation of achievement of outcome in the nursing team, it is important to discuss the achievement of outcome with the patient and/or the team. Especially outcome formulations, such as "Participates group activities without being asked", are subject to a certain subjectivity.
4.6 Definition: ENP nursing interventions

Nursing interventions in ENP are all performances as part of nursing care carried out directly for and with the patient (eg whole body wash) as well as indirectly for patients (eg prepare medication) which are carried out by nurses on the basis of the nursing diagnosis process.

An ENP nursing intervention is defined as follows:

An ENP nursing intervention is the term for an intervention concept. The intervention concepts are abstract formulations of nursing action which consist of several partial steps. The ENP nursing intervention concepts can refer to direct, indirect, or administrative nursing services which are initiated and carried out by nurses for achievement of outcomes on the basis of clinical decision processes and nursing knowledge.

An example to clarify: the nursing performance "Carry out 30° positioning according to Seiler" consists of numerous partial steps. This partial intervention begins among others with the disinfection of hands, preparation of material, greeting of the patient, information of the patient, the actual positioning performance (which can be described in several single steps, eg place head rest in flat position, remove pillow, etc.) and ends with the reassurance that the patient has no further desire after positioning and eg is able to reach the bell. The single practical steps of the nursing interventions in ENP are not described, but have been conceptualised as part of nursing schooling. For nursing care documentation it is also not meaningful to take over the single practical steps of an intervention concept written out in full into the patient record (vgl. hierzu u.a. Göpfert-Divivier, Mybes, & Igl, 2006).

Intervention specification

In textbooks it is demanded that the written nursing interventions have to answer the following commonly known questions. Which are "who is doing what, how, with what, and when?" From these requirements on nursing intervention formulations it can be deduced that nursing intervention concepts should have activity-directed character. This requirement is taken into account in ENP with intervention specifications.

ENP intervention specifications are defined as follows:

ENP intervention specifications are additional detailed information which refer to the nursing intervention. Those can include the following dimensions: detailed description of the nursing intervention, the type of support for the performance of the intervention, frequency and scheduled time of the intervention (including time intervals of the interventions), nursing products and aids used, order of interrelated interventions, topology, statements of place and paths as well as the amount, number of nurses required for the adequate performance of the nursing intervention.
4.7 Normative time values in ENP

In addition to the other elements in ENP the normative time values are linked to nursing interventions and are summed case-related. For situation-based illustration of the summed time values, different factors are taken into account such as severity levels, location of performance, etc. The time values are estimates that were negotiated over years in an empirical process with nurses. The integrated normative time values are also weighted by the context of the nursing diagnosis. For example, there are different time values in a demented patient/resident for personal hygiene than in a patient who is unable to carry out personal hygiene independently due to physical weakness. The process of time values has started in 1996 and was continuously adjusted in focus groups of nurses with the first software application used in practice. Due to own time value measurements further adjustments of the time values were carried out as part of research studies. The linkage between LEP Nursing 3 and ENP interventions carried out in 2004 shows that the integrated time values correspond to a high degree.
5. Quality of the ENP practice guidelines

The nursing diagnoses-related pathways in ENP have been developed inductively in Germany (Wieteck 2004, p. 27 ff.). Until today users have great influence on the development of ENP. Users submit demands on the illustration of nursing diagnoses and nursing interventions to the ENP development team. These demands from the practice will be defined as development input. For example, in 2010 the following items were submitted as part of the illustration of restricted communication of a resident with dementia: "Unclear speech" and "Meaningless speech". After discussions on the meaning with nurses on site and a first literature analysis the following practice guideline was developed: "The resident/patient/client’s communication is restricted due to a language disorder". After positive feedback of nurses on site the next steps are a deeper literature analysis and systematic comparison of with possible similar nursing diagnoses.

Literature references of ENP practice guidelines relate to international and national studies. Literature support has been massively increased during the last five years and the quality of practice guidelines thus significantly improved. Each ENP is supported with current literature, as part of the discussion on content validity of nursing diagnostic terms Woodtli, 1988 refers to this already as a sign of content validity.

There are eight content and criterion-related validation studies so far (Berger, 2010, Hardenacke, 2007, Helmbold, 2010a, 2010b, Schmitt, 2010, Wieteck, 2006b, 2006c, 2008) further eg on the topic of dysphagia are currently in progress (as of August 2014). Berger used 1.931 narrative formulations of nursing plans for illustration in ENP in terms of criterion-related validation. The formulations stem from nursing exams graded with 1–2. Altogether 73 % of the formulations could be illustrated completely, 14 % partly completely and 13 % could not be illustrated. Altogether 73 % of the formulations could be illustrated completely, 14 % partly completely and 13 % could not be illustrated. Similar results were reached by Schmitt 2010 in his criterion-related validation study on neonatologic intensive care (Schmitt, 2010). These studies relate to complete practice guidelines (which is nursing diagnosis, characteristics, etiologies, nursing interventions). Also the literature analysis of Helmbold refers to the complete practice guideline (Helmbold, 2010a, 2010b). Revision and further development of ENP can be exemplified by nursing diagnoses on malnutrition where validity restrictions were found in the study by Hardenacke (2007) (Helmbold, 2010b).

Some studies and projects were carried out to evaluate the practical use of ENP. Baltzer (2006) points out in her report on the hospital implementation project: "ENP formulations are in step with actual practice and comprehensible" and "With ENP, nursing processes can be illustrated clearly and completely." (Baltzer et al., 2006, S. 9) The evaluation project of Canton St Gallen, carried out in four different hospitals, aimed at testing the nursing language ENP for a cantonal implementation decision. For this reason, ENP was tested by different institutions and disciplines. See the final report on the Conception and piloting of the implementation of ENP in hospitals of Canton St Gallen (2006) (Kossaibati und Berthou 2006, p. 8 ff.). As part of the evaluation project the nurse experts of the different pilot institutions evaluated the nursing care plans documented with ENP regarding the criterial "reliability", "guidance", "nursing relevance", "clarity", "comprehensibility" and "completeness". "At least 80 % of the analysed nursing care plans met the analysis criteria." (Kossaibati und Berthou 2006, S. 41)
In an intervention study it was analysed whether the use of ENP (at that time referred to as "blocks of text for nursing process documentation") in a software would have any effect on the nursing process documentation in a nursing home. The frequency and valence-analytic evaluations show significant positive effects on the documentation quality (Wieteck, 2001). In a further study it was examined to what extent "actually carried out nursing interventions" (collected by observers) matched with "documented nursing services using ENP". Altogether 1,068 nursing intervention codings of 34 patient cases were evaluated in this multi-centric descriptive cross-sectional study using parallel test method. The percentage agreement of the rater results of both institutions averages at 76 %. The study leaves open to what extent the proportion of the 24 % not correct codings can be linked to failure of nurses or missing items of ENP nursing interventions (Wieteck, 2007b). ENP data evaluations of hospitals, nursing homes, and outpatient services have been published in two studies. Here, ENP data was used from nursing process documentations regarding different questions (Haag, 2009b, Konrad, 2009, Wieteck, 2004a). In a research paper Wieteck (2009) shows that ENP has the granularity, ie the clarity, fineness, and selectivity, eg to answer audit questions of the expert standard on pressure sore from the daily nursing process documentation (Wieteck, 2009). ENP is also discussed in the context of the illustration of nursing performance within the DRG system (Bartholomeyczik, Haasenritter, & Wieteck, 2009). Furthermore, validation works were carried out on the translation of ENP into Italian, English, and French. For this purpose there are coopertions eg with the University Collegio Provinciale IPASVI L’Áquila as well as several hospitals in Luxembourg.

The strength of ENP is for one thing its granularity which corresponds to documentation requirements for nurses in German speaking countries. The classification has been developed in Germany, so cultural adaptions for German-speaking countries are not necessary. International data exchange can be ensured by mapping (Wieteck, 2007c). Also the requirements of the policy statements on the nursing care process and documentation by the MDS (German Medical Service of the Central Association of Health Insurance Funds) (MDS Medizinischer Dienst der Spitzenverbände der Krankenkassen e. V., 2005) can be met.

In contrast to other pre-combined nursing classifications ENP structures nursing diagnoses, outcomes, and interventions which offer nursing knowledge, individually combined as practice guidelines, in a horizontal structure for decision-making. Therefore, comparisons of quality criteria with other classification systems are difficult.
6. Critical remarks

ENP is currently not complete yet to a degree to offer all necessary nursing phenomena and interventions relevant for process documentation. This is the result of various studies and evaluation projects. Approx. 23 % of NANDA-I nursing diagnoses could not be illustrated using ENP at the time of the study in 2008 (Wieteck 2008). Many of these nursing diagnoses are listed under 1.3 as they are part of version updates. In addition, about 18 % of the formulations had to be added individually at that time. This statement refers to the complete nursing care process (nursing diagnoses, outcomes, interventions) (Berger, 2008, 2010, Schmitt, 2009, Wieteck, 2004b). After the broadly based practice test of St Gallen, Kossaibati and Berthou find it noticeable that the nursing language origins from Germany and suggest a Swiss adaption to support its acceptance. The results confirm, as well as other studies, that ENP is not yet complete in all specialist areas of nursing. In some areas elements of the pathways were found to be inconsistent and not yet on the current state of scientific knowledge. Therefore, the following aspects were suggested to adapt and correct the limitations experienced in the project of the hospitals of the Canton St Gallen:

- Swiss adaption (linguistic and cultural): amongst others, illustration of Swiss nursing competence area and nursing concept and substitution of non-Swiss terms by the Swiss equivalent;
- Aktualisierung der ENP-Inhalte (insbesondere Berücksichtigung internationaler, auch fremdsprachiger Fachliteratur, sowie Forschung aus der Pflege),
- Vereinheitlichung des Detailierungs niveaus,
- Completion of ENP in the fields of oncologic nursing, transcultural nursing, addiction nursing, psychosocial aspects etc. (Kossaibati & Berthou, 2006, S. 61)

The validity of the ENP practice guidelines has been tested in depth on high scientific level. There are hints that some ENP nursing diagnoses are not complete and can be improved (Hardenacke, 2007).

Summary

Since the nursing knowledge is constantly expanding with rapid progression, the validation process of ENP is also a continuous requirement as part of the further development of the system. However, it does not seem wrong to speak of a high maturity of the system. Signs for this are the application now in all sectors of nursing care to illustrate the nursing care process, as well as the positive feedback from users. The quality of ENP is also supported by the fact that the high level of agreement between the systems NANDA-I and ICNP and the expressiveness and clarity of ENP nursing diagnoses were rated by experts to about 84 % as good or higher compared to NANDA-I nursing diagnoses (Wieteck 2008).
Literature


Contact

RECOM GmbH & Co. KG
ENP Research and Development
Lindenstrasse 17
85107 Baar-Ebenhausen
Germany

Phone +49 (0) 8453 339968-4
Fax +49 (0) 8453 332717

E-mail: info@recom.eu