

## Intro

The second round of the Delphi on interprofessional paediatric cancer education was developed based on the first round, which you responded to in December 2018/January 2019.

Twelve out of 14 paediatric cancer centres in Denmark, Norway and Sweden are participating with 11 nurses, 10 medical doctors, 5 social workers, 2 physiotherapists and 2 play therapists/pedagogues.

In the first Delphi round 386 statements were submitted.

Our analysis of the responses led to the formulation of learning objectives for three levels:

1) **ALL PROFESSIONALS** (teachers, pedagogues, social workers, physiotherapists, all medical doctors, nurses and other professionals affiliated with your clinic)

2) **ALL DOCTORS AND NURSES**

3) **SPECIALISED PAEDIATRICIANS** (not trainee doctors) **and EXPERIENCED/SPECIALISED PAEDIATRIC NURSES**

Paediatric oncologists are incorporated in the three levels, which is why they are not listed separately.

The learning objectives build on each other; hence the learning objectives on level 1 also apply to healthcare professionals on level 2 and 3.

The learning objectives comprise six categories (in alphabetical order):

1. Acute life-threatening situations
2. Gastro-intestinal toxicities
3. Pain
4. Palliation
5. Play and activity
6. Prescription and administration of medicine

Please rate each learning objective using the five-point scale, from not relevant to extremely relevant, for an interprofessional paediatric cancer education.

In case you have any questions, please do not hesitate to email: [martha.krogh.topperzer@regionh.dk](mailto:martha.krogh.topperzer@regionh.dk), text or call me: +45 2830 0052.

Thank you for your time.

Sincerely

on behalf of the research group

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### Category 1: Acute life-threatening situations

In relation to acute life-threatening situations, **ALL PROFESSIONALS** (teachers, pedagogues, social workers, physiotherapists, all medical doctors, nurses and other professionals affiliated with your clinic) should be able to:

1. Be part of the team treating the child or adolescent in the acute life-threatening situation
2. Identify a child or adolescent in urgent need of help
3. Apply basic paediatric resuscitation
4. Assess the patient's need for information
5. Apply appropriate and targeted communication, taking into account the patient's mental development and resources
6. Communicate in an age-appropriate manner, adjusted to the situation and the patient's need for and right to information
7. Identify dilemmas regarding patient autonomy, involvement and respecting patient confidentiality at ages 15 to 17, and act according to national legislation
8. Convey information between and to and from relevant healthcare professionals and patients and their families
9. Identify one's own professional limitations and ask for help
10. Listen, appreciate and enquire regarding issues beyond one's own knowledge and profession
11. Understand and respect the perspectives of colleagues
12. Bring up problems or tough issues
13. Call for assistance, i.e. contact the nurse and/or doctor in charge of patient

If you have any comments or suggestions for other learning objectives for **ALL PROFESSIONALS** for acute life-threatening situations, please write them here:

Doctors and nurses have different responsibilities and competencies. However, there are still some commonalities and overlaps.

In acute life-threatening situations, **ALL DOCTORS AND NURSES** should also be able to:

1. Identify potential acute life-threatening conditions in paediatric cancer
2. Apply knowledge of relevant local/national /international guidelines/standard operating procedures
3. Identify acute respiratory insufficiency and acute cardiovascular problems
4. Perform the Paediatric Early Warning Score upon arrival of patient, in case of fever above 38.5°C (or above 38°C >1 hour) and neutrocytes <0.5 mio/l (or leucocytes <1mio/l)
5. Stabilise patient, including initiation of intravenous fluids to maintain stable blood pressure
6. Perform relevant observations and communicate the need to initiate, maintain and/or evaluate pharmacological and non-pharmacological treatment
7. Initiate, maintain and/or evaluate pharmacological and/or non-pharmacological treatment
8. Document observations and actions
9. Collaborate with children and adolescents and their families in assessment, treatment and evaluation
10. Confer with specialised paediatricians in case of clinical deterioration
11. Identify complex management issues and involve other relevant staff, including paediatric oncologists

If you have any comments or suggestions for other learning objectives for **ALL DOCTORS AND NURSES** for acute life-threatening situations, please write them here:

In acute life-threatening situations, **SPECIALISED PAEDIATRICIANS (not trainee doctors) and EXPERIENCED/SPECIALISED PAEDIATRIC NURSES** should also be able to:

1. Assume team leadership, within one's own professional capacity
2. Coordinate and delegate tasks
3. Communicate strategies to healthcare professionals as well as patients and families
4. Assist in identification and resolution of current and potential disagreements between healthcare professionals and between healthcare professionals and families
5. Consider differential diagnostic proposals
6. Identify need for communication with other relevant staff, including the paediatric oncologist

If you have any comments or suggestions for other learning objectives for **SPECIALISED PAEDIATRICIANS (not trainee doctors) and EXPERIENCED/SPECIALISED PAEDIATRIC NURSES** for acute life-threatening situations, please write them here:

## Category 2: Gastro-intestinal toxicities and side effects

The following learning objectives relate to gastro-intestinal toxicities and side effects, mild or severe, including i.e. constipation, mucositis, nausea and vomiting.

In relation to gastro-intestinal toxicities and side effects, **ALL PROFESSIONALS** (teachers, pedagogues, social workers, physiotherapists, all medical doctors, nurses and other professionals affiliated with your clinic) should be able to:

1. Be part of the team treating the child or adolescent with gastro-intestinal toxicities and side effects
2. Identify a child or adolescent with nausea and/or vomiting
3. Identify a child or adolescent with gastro-intestinal problems such as mucositis
4. Identify how to handle waste material, such as vomit, urine and faeces
5. Assess the patient's need for information
6. Apply appropriate and targeted communication, taking into account the patient's mental development and resources
7. Communicate in an age-appropriate manner, adjusted to the situation and the patient's need for and right to information
8. Identify dilemmas regarding patient autonomy, involvement and respecting patient confidentiality at ages 15 to 17, and act according to national legislation
9. Convey information between and to and from relevant healthcare professionals and patients and their families
10. Identify one's own professional limitations and ask for help
11. Listen, appreciate and enquire regarding issues beyond one's own knowledge and profession
12. Understand and respect the perspectives of colleagues
13. Bring up problems or tough issues
14. Identify need for communication with the nurse and/or doctor in charge of patient

If you have any comments or suggestions for other learning objectives for **ALL PROFESSIONALS** for gastro-intestinal toxicities or side effects, please write them here:

Medical doctors and nurses have different responsibilities and competencies. However, there are still some commonalities and overlaps.

In relation to gastro-intestinal toxicities and side effects, **ALL DOCTORS AND NURSES** should also be able to:

1. Apply knowledge of relevant local/national /international guidelines/standard operating procedures
2. Observe and communicate the need to initiate, maintain and/or evaluate pharmacological and non-pharmacological treatment
3. Initiate, maintain and/or evaluate pharmacological and/or non-pharmacological treatment
4. Collaborate with children and adolescents and their families in assessment, treatment and evaluation
5. Identify complex management issues and involve other relevant staff, including paediatric oncologists

If you have any comments or suggestions for other learning objectives for **ALL DOCTORS AND NURSES** for gastro-intestinal toxicities and side effects, please write them here:

In relation to gastro-intestinal toxicities and side effects **SPECIALISED PAEDIATRICIANS (not trainee doctors) and EXPERIENCED/SPECIALISED PAEDIATRIC NURSES** should also be able to:

1. Assume team leadership, within one's own professional capacity
2. Coordinate and delegate tasks
3. Communicate strategies to healthcare professionals as well as patients and families
4. Assist in identification and resolution of current and potential disagreements between healthcare professionals and between healthcare professionals and families
5. Identify need for communication with other relevant staff, including the paediatric oncologist

If you have any comments or suggestions for other learning objectives for **SPECIALISED PAEDIATRICIANS (not trainee doctors) and EXPERIENCED/SPECIALISED PAEDIATRIC NURSES** for gastro-intestinal toxicities and side effects, please write them here:

### Category 3: Pain

In relation to pain, **ALL PROFESSIONALS** (teachers, pedagogues, social workers, physiotherapists, all medical doctors, nurses and other professionals affiliated with your clinic) should be able to:

1. Be part of the team treating the child or adolescent with pain
2. Identify a child or adolescent with pain
3. Assess the patient's need for information
4. Communicate in an age-appropriate manner, adjusted to the situation and the patient's need for and right to information
5. Identify dilemmas regarding patient autonomy, involvement and respecting patient confidentiality at ages 15 to 17, and act according to national legislation
6. Convey information between and to and from relevant healthcare professionals and patients and their families
7. Identify one's own professional limitations and ask for help
8. Listen, appreciate and enquire regarding issues beyond one's own knowledge and profession
9. Understand and respect the perspectives of colleagues
10. Bring up problems or tough issues
11. Identify need for communication with the nurse and/or the doctor in charge of patient

If you have any comments or suggestions for other learning objectives for **ALL PROFESSIONALS** for pain, please write them here:

Medical doctors and nurses have different responsibilities and competencies. However, there are still some commonalities and overlaps.

In relation to pain, **ALL DOCTORS AND NURSES** should also be able to:

1. Apply knowledge of relevant local/national /international guidelines/standard operating procedures
2. Observe and communicate the need to initiate, maintain and evaluate treatment, pharmacological and non-pharmacological
3. Initiate, maintain and evaluate relevant treatment, pharmacological and non-pharmacological
4. Collaborate with children and adolescents and their families in assessment, treatment and evaluation of pain
5. Identify complex pain management issues and involve other relevant staff, including paediatric oncologists

If you have any comments or suggestions for other learning objectives for **ALL DOCTORS AND NURSES** for pain, please write them here:

In relation to pain, **SPECIALISED PAEDIATRICIANS (not trainee doctors) and EXPERIENCED/SPECIALISED PAEDIATRIC NURSES** should also be able to:

1. Assume team leadership, within one's own professional capacity
2. Coordinate and delegate tasks
3. Communicate strategies to healthcare professionals as well as patients and families
4. Assist in identification and resolution of current and potential disagreements between healthcare professionals or between healthcare professionals and families
5. Identify need for communication with other relevant staff, including paediatric oncologists

If you have any comments or suggestions for other learning objectives for **SPECIALISED PAEDIATRICIANS (not trainee doctors) and EXPERIENCED/SPECIALISED PAEDIATRIC NURSES** for pain, please write them here:

#### Category 4: Palliation

In relation to palliation, **ALL PROFESSIONALS** (teachers, pedagogues, social workers, physiotherapists, all medical doctors, nurses and other professionals affiliated with your clinic) should be able to:

1. Be part of the team treating the child or adolescent in palliative care
2. Identify a child or adolescent in need of palliative care
3. Assess the patient's need for information
4. Apply appropriate and targeted communication, taking into account the patient's mental development and resources
5. Communicate in an age-appropriate manner, adjusted to the situation and the patient's need for and right to information
6. Apply communication with patients or families in crisis
7. Apply communication with patients in palliative care and their families
8. Identify barriers of communication, such as grieving and crises, and how these may be culturally different
9. Identify dilemmas regarding patient autonomy, involvement and respecting patient confidentiality at ages 15 to 17, and act according to national legislation
10. Convey information between and to and from relevant healthcare professionals and patients and their families
11. Identify ethical dilemmas
12. Alleviate physical, psychological and spiritual issues
13. Be forthcoming to the wishes of patients and their families
14. Ensure access to psychological support for both patients and families and healthcare professionals
15. Assist in procuring necessary aids to ease everyday life at home or at the department
16. Encourage participation of siblings and friends in daily routines
17. Listen, appreciate and enquire regarding issues beyond one's own knowledge and profession
18. Understand and respect the perspectives of colleagues
19. Bring up problems or tough issues
20. Identify one's own professional limitations and ask for help
21. Identify need for communication with other relevant staff, including the nurse and/or the doctor in charge of patient

If you have any comments or suggestions for other learning objectives for **ALL PROFESSIONALS** for palliation, please write them here:

In relation to palliation, **ALL DOCTORS AND NURSES** should also be able to:

1. Apply knowledge of relevant local/national /international guidelines/standard operating procedures
2. Apply local, national and international palliative collaboration possibilities
3. Assess palliative treatment options, including medical, surgical and radiological
4. Collaborate with children and adolescents and their families in assessment, treatment and evaluation
5. Observe and communicate the need for pharmacological and non-pharmacological treatment
6. Initiate, maintain and evaluate relevant pharmacological and non-pharmacological treatment
7. Identify complex palliation management issues and involve other relevant staff, including paediatric oncologists

If you have any comments or suggestions for other learning objectives for **ALL DOCTORS AND NURSES** for palliation, please write them here:

In relation to palliation, **SPECIALISED PAEDIATRICIANS (not trainee doctors) and EXPERIENCED/SPECIALISED PAEDIATRIC NURSES** should also be able to:

1. Assume team leadership, within one's own professional capacity
2. Coordinate and delegate tasks
3. Communicate strategies to healthcare professionals as well as patients and families
4. Assist in identification and resolution of current and potential disagreements between healthcare professionals or between healthcare professionals and families
5. Identify need for communication with other relevant staff including the paediatric oncologist

If you have any comments or suggestions for other learning objectives for **SPECIALISED PAEDIATRICIANS (not trainee doctors) and EXPERIENCED/SPECIALISED PAEDIATRIC NURSES** for palliation, please write them here:

### Category 5: Play and activity

In relation to play and activity, **ALL PROFESSIONALS** (teachers, pedagogues, social workers, physiotherapists, all medical doctors, nurses and other professionals affiliated with your clinic) should be able to:

1. Be part of the team treating the child or adolescent in need of play and activity
2. Identify a child or adolescent in need of play and activity
3. Include play and activity in treatment and procedures
4. Limit social isolation
5. Encourage participation in normal social relations such as school and social activity
6. Include siblings and friends from school in the treatment whenever possible
7. Identify the importance of play and activity in respect to physical and mental development
8. Assess the patient's need for information
9. Apply appropriate and targeted communication, taking into account the patient's mental development and resources
10. Communicate in an age-appropriate manner, adjusted to the situation and the patient's need for and right to information
11. Identify dilemmas regarding patient autonomy, involvement and respecting patient confidentiality at ages 15 to 17, and act according to national legislation
12. Convey information between and to and from relevant healthcare professionals and patients and their families and their families
13. Inform children, adolescents and their families about age-appropriate play and activity
14. Assist children and adolescents in planning and performing age appropriate play and activity
15. Identify how various cancer diseases affect the musculoskeletal function
16. Identify one's own professional limitations and ask for help
17. Listen, appreciate and enquire regarding issues beyond one's own knowledge and profession
18. Understand and respect the perspectives of colleagues
19. Bring up problems or tough issues
20. Identify need for communication with other relevant staff, including the nurse and/or the doctor in charge of patient

If you have any comments or suggestions for other learning objectives for **ALL PROFESSIONALS** for play and activity, please write them here:

In relation to play and activity, **ALL DOCTORS AND NURSES** should also be able to:

1. Apply knowledge of relevant local/national /international guidelines/standard operating procedures
2. Coordinate and incorporate play and activity in everyday treatment
3. Identify complex management issues and involve other relevant staff, including play therapists and/or physiotherapists

If you have any comments or suggestions for other learning objectives for **ALL DOCTORS AND NURSES** for play and activity, please write them here:

In relation to play and activity, **PLAY THERAPISTS OR EQUIVALENT AND PHYSIOTHERAPISTS** should also be able to:

1. Identify, plan, coordinate and evaluate rehabilitation options for the individual child or adolescent with cancer
2. Offer play assistance to stimulate social interaction with other children of the same age
3. Identify need for communication with other relevant staff, including the paediatric oncologist

If you have any comments or suggestions for other learning objectives for **PLAY THERAPISTS OR EQUIVALENT AND PHYSIOTHERAPISTS** concerning play and activity, please write them here:

In relation to play and activity, **SPECIALISED PAEDIATRICIANS (not trainee doctors) and EXPERIENCED/SPECIALISED PAEDIATRIC NURSES** should also be able to:

1. Assume team leadership, within one's own professional capacity
2. Coordinate and delegate tasks
3. Communicate strategies to healthcare professionals as well as patients and families
4. Assist in identification and resolution of current and potential disagreements between healthcare professionals or between healthcare professionals and families
5. Identify need for communication with other relevant staff, including the paediatric oncologist

If you have any comments or suggestions for other learning objectives for **SPECIALISED PAEDIATRICIANS (not trainee doctors) and EXPERIENCED/SPECIALISED PAEDIATRIC NURSES** for play and activity, please write them here:

#### Category 6: Prescription and administration of medicine

In relation to prescription and administration of medicine, **ALL PROFESSIONALS** (teachers, pedagogues, social workers, physiotherapists, all medical doctors, nurses and other professionals affiliated with your clinic) should be able to:

1. Be part of the team treating the child or adolescent with cancer receiving medicine
2. Respect do-not-disturb zones at the department
3. Identify how to handle waste material, such as vomit, urine and faeces exposed to chemotherapy or other chemical agents
4. Identify dilemmas regarding patient autonomy, involvement and respecting patient confidentiality at ages 15 to 18
5. Assess the patient's need for information
6. Apply appropriate and targeted communication, taking into account the patient's mental development and resources
7. Communicate in an age-appropriate manner, adjusted to the situation and the patient's need for and right to information
8. Identify dilemmas regarding patient autonomy, involvement and respecting patient confidentiality at ages 15 to 17, and act according to national legislation
9. Convey information between and to and from relevant healthcare professionals and patients and their families
10. Identify one's own professional limitations and ask for help
11. Listen, appreciate and enquire regarding issues beyond one's own knowledge and profession
12. Understand and respect the perspectives of colleagues
13. Bring up problems or tough issues
14. Identify need for communication with other relevant staff, including the nurse and/or medical doctor in charge of patient

If you have any comments or suggestions for other learning objectives for **ALL PROFESSIONALS** for prescription and administration of medicine, please write them here:

In relation to prescription and administration of medicine, **ALL DOCTORS AND NURSES** should also be able to:

1. Apply knowledge of relevant local/national /international guidelines/standard operating procedures
2. Identify pharmaceutical treatments used most
3. Differentiate between how pharmaceutical treatments used most are prepared and administered
4. Identify most common pitfalls for medication errors with children and adolescents with cancer
5. Check dose calculations at every administration
6. Examine medical records in relation to allergies/cave/actual weight
7. Document medical records vigilantly in relation to allergies/cave/actual weight
8. Identify various options for preparation and administration at department
9. Distinguish between the term generic and brand names of medicines
10. Identify various options for treatment at department
11. Ensure that relevant healthcare professionals and patients understand the prescription correctly
12. Communicate medical prescription preferences with relevant healthcare professionals and patients and family
13. Discuss treatment options with relevant healthcare professionals and patient and family
14. Report and document any medication errors encountered
15. Assist colleagues in controlling calculus and administration form
16. Assess and train patients and families in administration of medicines orally and in nasogastric tube
17. Identify complex management issues and involve other relevant staff, including the specialised paediatrician

If you have any comments or suggestions for other learning objectives for **ALL DOCTORS AND NURSES** for prescription and administration of medicine, please write them here:

In relation to prescription and administration of medicine, **SPECIALISED PAEDIATRICIANS (not trainee doctors) and EXPERIENCED/SPECIALISED PAEDIATRIC NURSES** should also be able to:

1. Encourage clinicians to report medication errors should they occur
2. Encourage a no-blame policy
3. Assess the severity of any medication errors and inform relevant partners
4. Identify need for communication with other relevant staff, including the paediatric oncologist

If you have any comments or suggestions for other learning objectives for **SPECIALISED PAEDIATRICIANS (not trainee doctors) and EXPERIENCED/SPECIALISED PAEDIATRIC NURSES** for prescription and administration of medicine, please write them here: