



In de zorg voor volwassenen met een endocrinologische aandoeningen lopen de specifieke rollen van de verpleegkundigen sterk uiteen. Sommige verpleegkundigen zijn betrokken bij de zorg voor patiënten met verscheidene endocrinologische aandoeningen, terwijl andere verpleegkundigen zich focussen op één of enkele specifieke aandoening(en). Om deze reden is dit competentieprofiel opgebouwd uit diverse competentiegebieden. Op deze manier kunnen verpleegkundigen en hun (klinisch) leidinggevende de competentie(s) selecteren die aansluiten bij de functie die de verpleegkundige vervult.

Aanvullend hierop zullen ook endocrinologie verpleegkundigen werkzaam zijn in de zorg voor patiënten met een endocrinologische aandoening waarvoor in dit competentieprofiel geen competentiegebied is beschreven. Toch wordt gehoopt dat dit competentieprofiel, en de daarin vermelde competentiegebieden, deze endocrinologie verpleegkundigen helpen om competentiegebieden te ontwikkelen die relevant zijn voor hun eigen rol. In de toekomst zullen aanvullende competentiegebieden worden ontwikkeld als blijkt dat hier behoefte aan is.

Benner's concept 'Novice to Expert' (Beginner tot Expert) is in aangepaste vorm gebruikt als basis voor deze competentiegebieden (5, 6, 7). Over het algemeen wordt aangenomen dat verpleegkundigen die nieuw zijn in het specialisme binnen zes maanden het niveau van 'Competent' zullen hebben bereikt.

Een endocrinologie verpleegkundige die functioneert op 'expertniveau' heeft waarschijnlijk enkele jaren ervaring in het specialisme en zal grotendeels zelfstandig werken. Het is mogelijk dat een endocrinologie verpleegkundige functioneert op het niveau van expert binnen één specifiek competentiegebied, terwijl op één ander competentiegebied of meerdere andere competentiegebieden het niveau 'gevorderde' wordt bereikt. Zoals eerder gezegd zullen niet alle competentiegebieden van toepassing zijn op elke endocrinologie verpleegkundige.

Het competentieprofiel Endocrinologie Verpleegkundige bij zorg voor volwassenen is in deze context ontwikkeld, terwijl tegelijkertijd rekening gehouden is met andere professionele en politieke factoren zoals:

- De behoefte aan de ontwikkeling van een landelijke standaard voor endocrinologie verpleegkundigen in de zorg voor volwassenen
- De behoefte aan de mogelijkheid om kennis en kunde te kunnen toetsen in de praktijk
- De toegenomen focus op 'werkplek-leren' en persoonlijke ontwikkeling
- Toenemende verwachtingen van patiënten en diens omgeving
- De behoefte aan leiderschap in gespecialiseerde verpleegkunde
- Standaardisering van zorg zodat op basis van professionele standaarden maatwerk geleverd kan worden Modernisering van zorgverlening

## De functie van endocrinologie verpleegkundige bij zorg voor volwassenen

De verpleegkundig specialist endocrinologie in de volwassenzorg moet een verpleegkundige zijn die is geregistreerd bij de Nursing and Midwifery Council (NMC) en houder is van een eerste graad. Het is de bedoeling dat de verpleegkundig specialist die de rol van 'expert' vervult, in het bezit is van een masterdiploma, of daar actief naar toe werkt. Een 'expert' dient een onafhankelijke voorschrijver te moeten zijn om autonoom te kunnen werken op dit niveau van klinische verantwoordelijkheid.

Met dit competentieprofiel wordt geprobeerd verpleegkundigen in de zorg voor volwassenen met een endocrinologische aandoening te ondersteunen om het huidige praktijkniveau te bepalen en bij te dragen aan het identificeren van persoonlijke opleiding- en ontwikkelingsbehoeften.

Progressie door de niveaus van 'beginner', 'gevorderde en/of 'expert' zal per persoon verschillend zijn. Dit is afhankelijk van context, huidig vaardigheidsniveau, functioneren en individuele doelen. Na circa vijf jaar werkervaring, en in het bezit zijn van een voltooide masteropleiding, zou een verpleegkundige het 'expert' niveau bereikt kunnen hebben in de relevante competenties.

Verpleegkundigen zouden altijd actief moeten zijn in de verdere ontwikkeling van hun beroepsuitoefening. Begin jaren 90 heeft de UK Central Council for Nursing, Midwifery and Health Visiting – tegenwoordig de Nursing and Midwifery Council (NMC) – een gedragscode (8) ontwikkeld die duidelijk beschrijft hoe alle verpleeg- en verloskundigen en zorgverleners zich voortdurend moeten inspannen om kennis, kunde en vaardigheden te bereiken, onderhouden en ontwikkelen. Dit werd herhaald in 2008 (9). Erkend wordt dat verpleegkundigen hun rol steeds verder uitbreiden en hun werkerrein uitbreiden tot voorbij de initiële registratie (10).

## Hoe het competentieprofiel te gebruiken

Het competentieprofiel is gericht op kennis, kunde en interventies passend bij de werkzaamheden van verpleegkundigen in de zorg voor volwassenen met een endocrinologische aandoening. Hoewel dit competentieprofiel een op zichzelf staand document is, kan het gebruikt worden in combinatie met andere kaders, zoals lokale en/of nationale richtlijnen, gericht op kernvaardigheden en competenties in het werkveld.

## Voordelen van het competentieprofiel

Het competentieprofiel biedt voordelen voor verpleegkundigen, hun werkgevers, patiënten en burgers.

Verpleegkundigen kunnen baat erbij hebben omdat het helpt om:

- Continue hoge standaarden van zorg te verlenen
- Het huidige praktijkniveau te identificeren en gestructureerd richting te geven aan verdere carrièreontwikkeling

- Nauwkeurig te kunnen bepalen van persoonlijke opleiding- en ontwikkelingsbehoeften.
- Effectiever de eigen capaciteit te realiseren
- Kansen te benutten om verpleegkundig beleid te beïnvloeden.

Werkgevers kunnen baat erbij hebben omdat het helpt als:

- Model om consistent hoge standaarden van zorg te kunnen garanderen.
- Duidelijk overzicht in de expertise en competenties van medewerkers; bij voorbeeld bij de beoordeling van risicomanagement.
- Ondersteuning in kader van organisatorische planning.

Patiënten en de maatschappij kunnen baat erbij hebben omdat het realisatie mogelijk maakt van:

- Consistent hoge standaarden van patiëntenzorg.
- Verbeterde effectiviteit van zorgverlening.
- Verbeterde toegang tot en keuze van zorg.

Het wordt verondersteld dat dit competentieprofiel een bruikbaar hulpmiddel zal kunnen zijn ter:

- Ondersteuning van functieomschrijvingen en salaris beoordelingen/onderhandelingen door doelen te bepalen in overeenstemming met lokale en nationale richtlijnen en beleid.
- Beoordeling van klinische deskundigheid op verschillende niveaus.
- Ontwikkeling van persoonlijke doelen en doelstellingen.
- Prestatiebeoordeling.

## Gespecialiseerde competenties

Competentieprofiel Endocrinologie Verpleegkundige bij zorg voor volwassenen wordt weergegeven in de volgende deelcompetenties:

Competentie 1: Acromegalie.

Competentie 2: Goedaardige bijniertumoren.

Competentie 3: Syndroom van Cushing.

Competentie 4: Dynamische endocriene functietesten.

Competentie 5: Groeihormoondeficiëntie.

Competentie 6: Hypo- en hyperparathyreoïdie.

Competentie 7: Hypogonadisme.

Competentie 8: Hypopituitarisme.

Competentie 9: Osteoporose.

Competentie 10: Polycysteus-ovariumsyndroom.

Competentie 11: Corticosteroiden substitutietherapie voor aandoeningen aan de hypofyse en bijnieren.

Competentie 12: Schildklier-aandoeningen.

Competentie 13: Transitie van kinder- naar volwassenenzorg.

**Competency 1** Acromegaly.

Competent	Proficient	Expert
<p>Understands the pathophysiology of acromegaly including signs, symptoms and diagnosis and is able to explain this to the patient</p> <p>Has knowledge and understanding of investigations required according to national evidence-based guidelines<sup>a</sup></p> <p>Has awareness and knowledge of local GH and IGF1 reference ranges</p> <p>Knows local and national policies, protocols and shared care guidelines</p> <p>Knows appropriate investigations and treatment modalities and is able to explain these to the patient<sup>a</sup></p> <p>Acknowledges the role of patient support services and is able to guide the patient on how they may be accessed</p> <p>Acknowledges psychological aspects of the condition</p> <p>Supports the patient and family by listening to their concerns, offering access to further support as needed</p> <p>Accurately documents and communicates with members of the wider team</p>	<p>Recognises abnormal test results and escalates appropriately<sup>a,b,c</sup></p> <p>Provides disease-specific education to the patient regarding the long-term effects of the diagnosis and management</p> <p>Initiates medical therapies including self-injection techniques and monitors appropriately; advises patient of the potential side effects and when to seek advice</p> <p>Incorporates research and evidence-based practice into clinical service</p> <p>Adheres to local and national policies, protocols and shared care guidelines</p> <p>Provides teaching and support to colleagues within the primary care setting</p> <p>Has knowledge of current clinical trials and referral pathways</p> <p>Recognises condition-specific psychological issues and provides support to patient and family</p> <p>Acts as a role model for junior staff</p>	<p>As competent and proficient plus</p> <p>Uses biochemical evidence to design and implement clinical pathways, including prescribing as appropriate<sup>a,b,c</sup></p> <p>Is able to assess the effectiveness of treatment</p> <p>Initiates additional necessary biochemical and radiological investigations<sup>a</sup></p> <p>Assesses cost implications and effectiveness of treatment options, including ability to facilitate access to funding</p> <p>Develops advanced practice through leadership and consultancy</p> <p>Identifies service shortfalls and develops strategies to address them</p> <p>Takes responsibility for integration of national and local policies</p> <p>Supports, teaches and assesses junior staff</p>

<sup>a</sup>Endocrine dynamic function testing competency.<sup>b</sup>Steroid replacement therapy for disorders of the pituitary and adrenal glands competency.<sup>c</sup>Hypopituitarism competency.

**Competency 2** Benign adrenal tumours.

	<b>Proficient</b> As competent plus	<b>Expert</b> As competent and proficient plus
<b>Competent</b>	<ul style="list-style-type: none"> <li>• Demonstrates an understanding of the anatomy, physiology and normal functioning of adrenal glands</li> <li>• Demonstrates awareness of benign adrenal tumours, e.g. incidentalomas, pheochromocytomas and Conn's syndrome</li> <li>• Demonstrates basic knowledge of how adrenal function may change with benign adrenal tumours</li> <li>• Accurately explains investigations to the patient and relatives</li> <li>• Is able to carry out tests under supervision using locally agreed protocols<sup>a</sup></li> <li>• Supports the patient and family by listening to their concerns, offering access to further support as needed</li> <li>• Accurately documents and communicates with members of the wider team</li> </ul>	<ul style="list-style-type: none"> <li>• Develops and runs nurse-led services to investigate patients with adrenal incidentalomas</li> <li>• Actively participates in multi-disciplinary team (MDT) discussions, providing advice about the appropriate endocrine tests required to other specialities within the team<sup>a</sup></li> <li>• Initiates additional necessary biochemical and radiological investigations as locally agreed</li> <li>• Interprets results and makes an autonomous decision on the next stage of care i.e. initiates care pathway for benign, or refers on to appropriate service for malignant disease</li> <li>• Develops best practice through leadership and consultancy</li> <li>• Identifies service shortfalls and develops strategies to address them, incorporating research and evidence-based practice</li> <li>• Takes responsibility for integration of national and local policies</li> <li>• Supports, teaches and assesses junior staff in relation to this competency</li> </ul>

<sup>a</sup>Endocrine dynamic function testing competency.



**Competency 3** Cushing's syndrome.

	<b>Proficient</b> As competent plus	<b>Expert</b> As competent and proficient plus
<b>Competent</b>	<ul style="list-style-type: none"> <li>Understands the pathophysiology of the normal hypothalamic-pituitary-adrenal (HPA) axis and recognises deviation from the norm</li> <li>Is able to recognise symptoms of Cushing's through clinical history-taking</li> <li>Has knowledge and understanding of investigations and local biochemistry values required in order to diagnose the condition<sup>a</sup></li> <li>Is able to explain Cushing's disease, Cushing's syndrome and cyclical Cushing's to a patient in simple terms, including signs and symptoms, investigations, and possible treatment options</li> <li>Can co-ordinate investigations and admission plan</li> <li>Supports the patient and family by listening to their concerns, offering access to further support as needed</li> <li>Accurately documents and communicates with members of the wider team</li> </ul>	<ul style="list-style-type: none"> <li>Can understand false-positive and -negative results and initiates alternative investigation<sup>a</sup></li> <li>Is able to monitor patients in a nurse-led environment and to assess the effectiveness of treatment including signs, symptoms, and biochemical control<sup>a,b,c</sup></li> <li>Designs, implements, and regularly evaluates individualised patient clinical care pathways, including prescribing and titrating appropriate medications</li> <li>Evaluates practice through audit and research</li> <li>Develops advanced practice through leadership and consultancy</li> <li>Supports, teaches and assesses junior staff</li> <li>Identifies service shortfalls and develops strategies to address them</li> </ul>

<sup>a</sup>Endocrine dynamic function testing competency.<sup>b</sup>Steroid replacement therapy for disorders of the pituitary and adrenal glands competency.<sup>c</sup>Hypopituitarism competency.

**Competency 4** Endocrine dynamic function testing.

	<b>Proficient</b>	<b>Expert</b>
<b>Competent</b>	As competent plus	As competent and proficient plus
<ul style="list-style-type: none"> <li>• Demonstrates an understanding of the anatomy, physiology and normal functioning of the endocrine system</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstrates an understanding of the factors affecting the reliability of an endocrine test</li> </ul>	<ul style="list-style-type: none"> <li>• Safely, competently and autonomously carries out complex tests</li> </ul>
<ul style="list-style-type: none"> <li>• Demonstrates awareness of common endocrine dynamic function tests and is able to explain in simple terms the rationale behind protocols</li> </ul>	<ul style="list-style-type: none"> <li>• Has knowledge of the safety parameters of each dynamic test and ability to escalate concerns</li> </ul>	<ul style="list-style-type: none"> <li>• Has the knowledge and ability to initiate an alternative test when requested test is contraindicated</li> </ul>
<ul style="list-style-type: none"> <li>• Demonstrates knowledge of normal biochemical ranges</li> </ul>	<ul style="list-style-type: none"> <li>• Safely and competently carries out complex tests with supervision from senior nurse or experienced medical practitioner</li> </ul>	<ul style="list-style-type: none"> <li>• Develops and updates evidence-based protocols for dynamic function tests</li> </ul>
<ul style="list-style-type: none"> <li>• Has awareness of role and responsibilities in relation to tests and investigations</li> </ul>	<ul style="list-style-type: none"> <li>• Can identify abnormal test results and escalate appropriately</li> </ul>	<ul style="list-style-type: none"> <li>• Interprets results and acts appropriately as indicated</li> </ul>
<ul style="list-style-type: none"> <li>• Is able to provide the patient and family with an explanation of the selected dynamic test and the rationale for it</li> </ul>	<ul style="list-style-type: none"> <li>• Discusses the need for further tests with the multi-disciplinary team (MDT)</li> </ul>	<ul style="list-style-type: none"> <li>• Accepts direct referrals from non-endocrine consultants as agreed by local protocols</li> </ul>
<ul style="list-style-type: none"> <li>• Performs low-risk tests under supervision according to agreed protocol</li> </ul>	<ul style="list-style-type: none"> <li>• Provides teaching and support to colleagues within the wider hospital team and primary care</li> </ul>	<ul style="list-style-type: none"> <li>• Provides advice on all aspects of endocrine tests at local and regional level</li> </ul>
<ul style="list-style-type: none"> <li>• Assists senior nurse or medical practitioner in carrying out higher risk tests</li> </ul>	<ul style="list-style-type: none"> <li>• Incorporates research and evidence-based practice into clinical service</li> </ul>	<ul style="list-style-type: none"> <li>• Evaluates practice through audit and research</li> </ul>
<ul style="list-style-type: none"> <li>• Supports the patient and family by listening to their concerns, offering access to further support as needed</li> </ul>	<ul style="list-style-type: none"> <li>• Supervises less experienced nursing colleagues undertaking tests</li> </ul>	<ul style="list-style-type: none"> <li>• Develops advanced practice through leadership and consultancy</li> </ul>
<ul style="list-style-type: none"> <li>• Accurately documents and communicates with members of the wider team</li> </ul>	<ul style="list-style-type: none"> <li>• Acts as a role model for junior staff</li> </ul>	<ul style="list-style-type: none"> <li>• Identifies service shortfalls and develops strategies to address them</li> </ul>
		<ul style="list-style-type: none"> <li>• Takes responsibility for integration of national and local policies</li> <li>• Supports, teaches and assesses junior staff</li> </ul>

It is understood that this is read in conjunction with all the other competencies.



**Competency 5** Growth hormone deficiency.

	<b>Proficient</b> As competent plus	<b>Expert</b> As competent and proficient plus
<b>Competent</b>	<ul style="list-style-type: none"> <li>Understands the pathophysiology of growth hormone deficiency, including signs and symptoms and diagnosis, and is able to explain this to the patient</li> <li>Has knowledge and understanding of appropriate investigations required<sup>a</sup></li> <li>Has knowledge and understanding of the requirements for growth hormone replacement in accordance with the National Institute of Health and Care Excellence (NICE) guidelines<sup>b</sup></li> <li>Is aware of insulin-like growth factor 1 (IGF1) reference ranges</li> <li>Is aware of the range of growth hormone devices</li> <li>Acknowledges the role of patient support services and is able to guide the patient on how they may be accessed</li> <li>Supports the patient and family by listening to their concerns, offering access to further support as needed</li> </ul>	<ul style="list-style-type: none"> <li>Contributes to discussions on access to funding in accordance with local shared care agreement</li> <li>In accordance with NICE guidelines, is able to initiate and adjust growth hormone dosage, assess effectiveness and make a clinical decision on continuation of treatment</li> <li>Initiates additional necessary biochemical and radiological investigations</li> <li>Develops and provides a nurse-led service relating to growth hormone replacement</li> <li>Develops advanced practice through leadership and consultancy</li> <li>Identifies service shortfalls and develops strategies to address them</li> <li>Takes responsibility for integration of national and local policies</li> <li>Liaises with relevant patient support groups, sharing expertise and collaborating with the wider community</li> <li>Supports, teaches and assesses junior staff</li> </ul>

<sup>a</sup>Endocrine dynamic function testing competency.<sup>b</sup>National Institute of Health and Care Excellence (NICE), see [www.nice.org.uk](http://www.nice.org.uk)



**Competency 6** Hypo- and hyperparathyroidism.

	<b>Proficient</b>	<b>Expert</b>
<b>Competent</b>	As competent plus	As competent and proficient plus
<ul style="list-style-type: none"> <li>Understands the anatomy and physiology of the normal parathyroid gland</li> </ul>	<ul style="list-style-type: none"> <li>Recognises abnormal test results and escalates appropriately</li> </ul>	<ul style="list-style-type: none"> <li>Can interpret investigation results and make clinical and prescribing decisions regarding treatment</li> </ul>
<ul style="list-style-type: none"> <li>Recognises signs and symptoms of hypo- and hyperparathyroidism, and the influence of calcium and vitamin D</li> </ul>	<ul style="list-style-type: none"> <li>Demonstrates an understanding of the limitations of investigations</li> </ul>	<ul style="list-style-type: none"> <li>Actively participates in multi-disciplinary team (MDT) discussions on individual patient's management</li> </ul>
<ul style="list-style-type: none"> <li>Demonstrates knowledge and understanding of appropriate investigations and is able to explain these to the patient</li> </ul>	<ul style="list-style-type: none"> <li>Advises patient of risks and benefits associated with the various treatment options including medical and surgical management</li> </ul>	<ul style="list-style-type: none"> <li>Is able to assess the effectiveness of treatment including signs symptoms and biochemical control</li> </ul>
<ul style="list-style-type: none"> <li>Is able to explain the diagnosis and treatment modalities to the patients</li> </ul>	<ul style="list-style-type: none"> <li>Provides disease-specific education to the patient on the long-term effects of the diagnosis and management</li> </ul>	<ul style="list-style-type: none"> <li>Identifies service shortfalls and develops strategies to address them</li> </ul>
<ul style="list-style-type: none"> <li>Supports the patient and family by listening to their concerns offering access to further support as needed</li> </ul>	<ul style="list-style-type: none"> <li>Recognises condition-specific psychological issues and provides support to patient and family</li> </ul>	<ul style="list-style-type: none"> <li>If appropriate develops a nurse-led service</li> </ul>
<ul style="list-style-type: none"> <li>Accurately documents and communicates with members of the wider team</li> </ul>	<ul style="list-style-type: none"> <li>Incorporates research and evidence-based practice into clinical service</li> </ul>	<ul style="list-style-type: none"> <li>Evaluates practice through audit and research</li> </ul>
	<ul style="list-style-type: none"> <li>Acts as a role model for junior staff</li> </ul>	<ul style="list-style-type: none"> <li>Develops advanced practice through leadership and consultancy</li> </ul>
		<ul style="list-style-type: none"> <li>Supports, teaches and assesses junior staff</li> </ul>
		<ul style="list-style-type: none"> <li>Liaises with relevant patient support groups sharing expertise and collaborating with the wider community</li> </ul>

**Competency 7** Hypogonadism.

	<b>Proficient</b> As competent plus	<b>Expert</b> As competent and proficient plus
<b>Competent</b>	<ul style="list-style-type: none"> <li>• Understands the pathophysiology of hypogonadism, including signs, symptoms and diagnosis, and is able to explain this to the patient</li> <li>• Has knowledge and understanding of investigations, including local biochemistry ranges, in order to diagnose the condition<sup>a</sup></li> <li>• Knows local prescribing policies and protocols</li> <li>• Knows appropriate treatment modalities and is able to explain these to the patient</li> <li>• Supports the patient and family by listening to their concerns, offering access to further support as needed</li> <li>• Accurately documents and communicates with members of the wider team</li> </ul>	<ul style="list-style-type: none"> <li>• Undertakes an in-depth health assessment to diagnose and identify cause of gonadal dysfunction</li> <li>• Interprets investigation results and makes clinical and prescribing decisions regarding treatment</li> <li>• Assesses the effectiveness of treatment including signs, symptoms and biochemical response</li> <li>• Initiates additional necessary biochemical and radiological investigations</li> <li>• Develops and provides a nurse-led service</li> <li>• Develops advanced practice through leadership and consultancy</li> <li>• Evaluates practice through audit and research</li> <li>• Identifies service shortfalls and develops strategies to address them</li> <li>• Takes responsibility for integration of national and local policies</li> <li>• Supports, teaches and assesses junior staff</li> </ul>

<sup>a</sup>Endocrine dynamic function testing competency.



**Competency 8** Hypopituitarism.

Competent	Proficient	Expert
<p>As competent plus</p> <ul style="list-style-type: none"> <li>Understands the normal anatomy and physiology of the pituitary and the disease processes which may cause hypopituitarism</li> <li>Can explain hypopituitarism and the necessity of hormone replacement to patients, using clear unambiguous language</li> <li>Knows and understands appropriate investigations required</li> <li>Can carry out dynamic pituitary testing according to agreed local protocols<sup>a</sup></li> <li>Understands the importance of steroid sick day rules and communicates these to patients in a manner that promotes safety and concordance<sup>b</sup></li> <li>Can recognise the impact of hormone replacement on patient well-being and identifies when input is needed from other members of the multi-disciplinary team (MDT)</li> <li>Acknowledges the psychological aspects of the condition</li> <li>Supports the patient and family by listening to their concerns, offering access to further support as needed</li> <li>Accurately documents and communicates with members of the wider team</li> </ul>	<p>As competent plus</p> <ul style="list-style-type: none"> <li>Understands the nature of treatment and disease modalities that may lead to hypopituitarism and is able to discuss these with the patient</li> <li>Reviews dynamic testing results and is able to identify hypopituitarism and escalate appropriately<sup>a</sup></li> <li>Demonstrates ability to discuss all hormone replacement options, including product availability, advantages and potential side effects<sup>b,c,d,e</sup></li> <li>Ensures effective monitoring of patients on hormone replacements is carried out, according to local policy and national guidelines<sup>b,c,d,e</sup></li> <li>Reviews monitoring results; initiates and contributes to discussion of appropriate treatment</li> <li>Actively promotes steroid sick day rule knowledge within the selected patient group, verifying understanding and concordance<sup>b</sup></li> <li>Demonstrates knowledge of evidence-based practice, current research and developments in pituitary care</li> <li>Has knowledge of current clinical trials and referral pathways</li> <li>Recognises condition-specific psychological issues and provides support to patient and family</li> <li>Acts as a role model for junior staff</li> </ul>	<p>As competent and proficient plus</p> <ul style="list-style-type: none"> <li>Displays a comprehensive knowledge of the disease process, and can evaluate biochemical results and scans</li> <li>Demonstrates advanced communication skills to share complex information with patients regarding the risks/benefits of surgical, medical and radiotherapy treatment options</li> <li>Designs, implements and regularly evaluates an individualised patient clinical care pathway</li> <li>Can analyse dynamic testing results and prescribe when appropriate, recognising when medical input is needed<sup>a</sup></li> <li>Interprets monitoring results, advising on treatment changes or adjustment</li> <li>Actively takes part in MDTs discussing complex patients and their management</li> <li>Identifies patients at increased risk and develops robust strategies to achieve safety and concordance with prescribed replacements<sup>b</sup></li> <li>Liaises with relevant patient support groups, sharing expertise and collaborating with the wider community</li> <li>Identifies service shortfalls and develops strategies to address them</li> <li>Develops advanced practice through leadership and consultancy</li> <li>Supports, teaches and assesses junior staff</li> </ul>

<sup>a</sup>Endocrine dynamic function testing competency.<sup>b</sup>Steroid replacement therapy for disorders of the pituitary and adrenal glands competency.<sup>c</sup>Growth hormone deficiency competency.<sup>d</sup>Hypogonadism competency.<sup>e</sup>Thyroid disease competency.

**Competency 9** Osteoporosis.

	<b>Proficient</b> As competent plus	<b>Expert</b> As competent and proficient plus
<b>Competent</b> <ul style="list-style-type: none"> <li>• Demonstrates an understanding of the mechanisms/disease processes which may cause or contribute to osteoporosis</li> <li>• Has knowledge and understanding of national guidelines for osteoporosis</li> <li>• Knows the appropriate treatment modalities and is able to explain these to the patient</li> <li>• Recognises the impact of diagnosis for patients and that individual lifestyle choices may impact on bone health</li> <li>• Offers access to further support as needed, e.g. patient support groups, psychological support</li> <li>• Accurately documents and communicates with members of the wider team</li> </ul>	<ul style="list-style-type: none"> <li>• Understands the nature of osteoporosis disease progression and is able to discuss individual outcomes with patients</li> <li>• Demonstrates the ability to select and commence appropriate treatment according to local/ national protocols</li> <li>• Discusses with patients the advantages and possible disadvantages of all treatment options</li> <li>• Demonstrates effective monitoring of patients, ordering dual energy x-ray absorptiometry (DEXA) scans and biochemical bone markers, according to local policy and national guidelines</li> <li>• Interprets monitoring results, advising on treatment changes or adjustment</li> <li>• Promotes lifestyle changes which positively impact on health and bone strength</li> <li>• Recognises condition-specific psychological issues and provides support to patient and family</li> <li>• Acts as a role model for junior staff</li> </ul>	<ul style="list-style-type: none"> <li>• Develops and provides a nurse-led osteoporosis service</li> <li>• Is able to diagnose osteopenia/osteoporosis using advanced knowledge of radiological and biochemical investigations</li> <li>• Actively participates in MDT discussions on individual patient's management</li> <li>• Designs, implements and regularly evaluates individualised clinical care pathways, including prescribing, utilising relevant up to date research</li> <li>• Identifies service shortfalls and develops strategies to address them</li> <li>• Participates in research-based activity in order to enhance evidence-based practice</li> <li>• Liaises with relevant patient support groups sharing expertise and collaborating with the wider community</li> <li>• Develops advanced practice through leadership and consultancy</li> <li>• Supports, teaches and actively assesses junior staff in relation to this competency</li> </ul>

**Competency 10** Polycystic ovary syndrome (PCOS).

	<b>Proficient</b> As competent plus	<b>Expert</b> As competent and proficient plus
<b>Competent</b>	<ul style="list-style-type: none"> <li>• Understands the pathophysiology of polycystic ovary syndrome including signs, symptoms and diagnosis and is able to explain this to the patient</li> <li>• Demonstrates knowledge and understanding of appropriate diagnostic investigations and treatment modalities and is able to explain these to the patient</li> <li>• Acknowledges the role of patient support services and is able to guide the patient on how they may be accessed</li> <li>• Acknowledges the psychological aspects of the condition and offers access to further support as needed</li> <li>• Accurately documents and communicates with members of the wider team</li> </ul>	<ul style="list-style-type: none"> <li>• Develops a nurse-led service to investigate, treat and monitor patients with polycystic ovary syndrome</li> <li>• Is able to diagnose PCOS using advanced knowledge of radiological and biochemical investigations</li> <li>• According to local guidelines and protocols accepts direct referrals from other specialities</li> <li>• Assesses the effectiveness of treatments including signs, symptoms and biochemical response</li> <li>• Liaises with relevant patient support groups, sharing expertise and collaborating with the wider community</li> <li>• Evaluates practice through audit and research</li> <li>• Develops best practice through leadership and consultancy</li> <li>• Identifies service shortfalls and develops strategies to address them incorporating research and evidence-based practice</li> <li>• Takes responsibility for integration of national and local policies</li> <li>• Supports, teaches and assesses junior staff</li> </ul>



## Endocrine Connections

**Competency 11** Steroid replacement therapy for disorders of the pituitary and adrenal glands.

Competent	Proficient	Expert
<p>As competent plus</p> <ul style="list-style-type: none"> <li>Understands the pathophysiology of disorders of the hypothalamic-pituitary-adrenal (HPA) axis, including signs, symptoms and diagnosis</li> <li>Has knowledge of endocrine disorders requiring steroid replacement</li> <li>Knows and understands investigations required to recognise steroid deficiency<sup>a</sup></li> <li>Can explain the reasons for taking and the consequences of not taking steroid medication</li> <li>Understands the importance of steroid sick day rules and communicates these to the patient in a manner that promotes safety and concordance</li> <li>Can teach the patient appropriate emergency treatment techniques and assess their level of understanding and competence</li> <li>Educates the patient to recognise when to seek medical assistance in times of inter-current illness</li> <li>Acknowledges psychological aspects of condition</li> <li>Acknowledges the role of patient support services and is able to guide the patient on how they may be accessed</li> <li>Supports the patient and family by listening to their concerns, offering access to further support as needed</li> <li>Informs and educates the patient regarding the importance of steroid cards and medical identification emblems</li> <li>Accurately documents and communicates with members of the wider team</li> </ul>	<p>As competent plus</p> <ul style="list-style-type: none"> <li>Recognises abnormal test results and initiates discussion of these with senior staff if appropriate<sup>a</sup></li> <li>Can distinguish between primary and secondary adrenal insufficiency and explain this to the patient<sup>b</sup></li> <li>Empowers patient to take control of steroid management and administration on a daily basis and during inter-current illness</li> <li>Can explain and discuss complex replacement regimens</li> <li>Informs patient of potential side effects of over- and under-replacement and when to seek advice</li> <li>Advises and provides information on life style management in relation to steroid replacement</li> <li>Incorporates research and evidence-based practice into clinical service</li> <li>Has knowledge of current clinical trials and referral pathways</li> <li>Recognises condition-specific psychological issues and provides support to patient and family</li> <li>Provides support to colleagues within the primary and secondary care setting</li> <li>Acts as a role model for junior staff</li> </ul>	<p>As competent and proficient plus</p> <ul style="list-style-type: none"> <li>Can interpret investigation results and make clinical and prescribing decisions regarding treatment<sup>a</sup></li> <li>Is able to assess the effectiveness of treatment, including signs, symptoms and biochemical control</li> <li>Initiates additional necessary biochemical and radiological investigations<sup>a</sup></li> <li>Develops and provides a nurse-led service relating to steroid replacement</li> <li>Develops advanced practice through leadership and consultancy</li> <li>Takes responsibility for integration of national and local policies</li> <li>Liaises with relevant patient support groups, sharing expertise and collaborating with the wider community</li> <li>Identifies service shortfalls and develops strategies to address them</li> <li>Supports, teaches and assesses junior staff</li> </ul>

<sup>a</sup>Endocrine dynamic function testing competency.<sup>b</sup>Hypopituitarism competency.

**Competency 12** Thyroid disease.

	<b>Proficient</b>	<b>Expert</b>
<b>Competent</b>	As competent plus	As competent and proficient plus
<ul style="list-style-type: none"> <li>• Demonstrates knowledge of thyroid function tests in relation to normal and abnormal thyroid function</li> </ul>	<ul style="list-style-type: none"> <li>• Can identify hyperthyroidism and hypothyroidism on thyroid function results</li> </ul>	<ul style="list-style-type: none"> <li>• Undertakes an in-depth health assessment and clinical examination to diagnose and identify cause of thyroid disease</li> </ul>
<ul style="list-style-type: none"> <li>• Can explain thyroid anatomy and physiology to the patient in simple terms</li> </ul>	<ul style="list-style-type: none"> <li>• Is able to recognise symptoms of thyroid dysfunction through clinical history taking and when reported by a patient</li> </ul>	<ul style="list-style-type: none"> <li>• Is able to identify thyroid enlargement, nodules and cysts</li> </ul>
<ul style="list-style-type: none"> <li>• Can explain the reasons for taking and the consequences of not taking thyroid medication</li> </ul>	<ul style="list-style-type: none"> <li>• Recognises thyroid function results which show subclinical disease and discusses these patients individually with senior staff</li> </ul>	<ul style="list-style-type: none"> <li>• Arranges appropriate investigations and is able to interpret the results before developing a clinical treatment plan</li> </ul>
<ul style="list-style-type: none"> <li>• Is able to explain potential side effects of the medication and required action if they occur</li> </ul>	<ul style="list-style-type: none"> <li>• Can explain to the patient the options for definitive treatment, including potential benefits, side effects and complications</li> </ul>	<ul style="list-style-type: none"> <li>• Can assess whether a patient with subclinical disease requires treatment</li> </ul>
<ul style="list-style-type: none"> <li>• Can identify when the patient's symptoms should be discussed with more senior nursing or medical staff</li> </ul>	<ul style="list-style-type: none"> <li>• According to local guidelines may make changes to doses or prescribe thyroid replacement</li> </ul>	<ul style="list-style-type: none"> <li>• Prescribes and monitors effect of appropriate drugs for thyroid over- or under-activity</li> </ul>
<ul style="list-style-type: none"> <li>• Supports the patient and family by listening to their concerns, offering access to further support as needed</li> </ul>	<ul style="list-style-type: none"> <li>• Recognises condition-specific psychological issues and provides support to patient and family</li> </ul>	<ul style="list-style-type: none"> <li>• Can explain treatment for thyroid cancer appropriate to the individual patient pathway</li> </ul>
<ul style="list-style-type: none"> <li>• Accurately documents and communicates with members of the wider team</li> </ul>	<ul style="list-style-type: none"> <li>• Has knowledge of current clinical trials and referral pathways</li> <li>• Acts as a role model for junior staff</li> </ul>	<ul style="list-style-type: none"> <li>• Supports, teaches and assesses junior staff</li> </ul>
		<ul style="list-style-type: none"> <li>• Develops, implements, evaluates and reviews clinical guidelines/standard operating procedures in relation to specialist nursing care of patients with thyroid disease</li> </ul>
		<ul style="list-style-type: none"> <li>• Identifies service shortfalls and develops strategies to address them</li> </ul>
		<ul style="list-style-type: none"> <li>• Develops advanced practice through leadership and consultancy</li> </ul>



**Competency 13** Transition: this competency relates to the adolescent (16+) transferring from the Paediatric to the Adult Endocrine Service.

Competent	Proficient	Expert
As competent plus	As competent plus	As competent and proficient plus
<ul style="list-style-type: none"> <li>• Demonstrates an understanding of the anatomy, physiology and normal functioning of the endocrine system</li> <li>• Demonstrates an understanding of the changing needs of adolescents and young adults with endocrine disorders</li> <li>• Has an understanding of how an individual's physical and psychological development can influence concordance</li> <li>• Has knowledge of the psychological impact of the endocrine condition</li> <li>• Acknowledges when additional advice and support are required from the paediatric team and knows how to access relevant personnel</li> <li>• Adheres to all relevant policies, protocols and shared care guidelines</li> <li>• Supports the patient and family by listening to their concerns, offering access to further support as needed</li> <li>• Accurately documents and communicates with members of the wider team</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstrates understanding of how endocrine conditions change during adolescence</li> <li>• Demonstrates an understanding of how the stages of pubertal development can affect the preparation for dynamic tests and interpretation of results<sup>a</sup></li> <li>• Is able to explain the management of endocrine conditions in ways relevant to transition patients and their families<sup>b,c,d,e,f,g,h</sup></li> <li>• Develops a collaborative working relationship with the paediatric endocrine team</li> <li>• Incorporates research and evidence-based practice into clinical service</li> <li>• Recognises condition-specific psychological issues and provides support to patient and family</li> <li>• Acts as a role model for junior staff</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstrates the ability to co-ordinate clinical care during the transition phase</li> <li>• Identifies service shortfalls and undertakes necessary development of the service and its care pathways</li> <li>• Utilises advanced communication skills to develop educational strategies that engage and empower young people in the management of their health and well-being</li> <li>• Takes responsibility for integration of national and local policies</li> <li>• Develops advanced practice through leadership and consultancy</li> <li>• Supports, teaches and assesses junior staff</li> </ul>

<sup>a</sup>Endocrine dynamic function testing competency.

<sup>b</sup>Growth hormone deficiency competency.

<sup>c</sup>Hypogonadism competency.

<sup>d</sup>Hypopituitarism competency.

<sup>e</sup>Thyroid disease competency.

<sup>f</sup>Steroid replacement therapy for disorders of the pituitary and adrenal glands competency.

<sup>g</sup>Cushing's syndrome competency.

<sup>h</sup>Polycystic ovary syndrome (PCOS).





## Sources

The primary source for this document is *Competences: an integrated career and competency framework for children's endocrine nurse specialists* (11).

### Author contribution statement

V Kieffer, K Davies, C Gibson, M Middleton, J Munday, S Shalet, L Shepherd and P Yeoh all contributed equally to this work.

### Acknowledgements

The authors would like to thank all those who have supported the development of this Competency Framework. They are grateful for the support of the Society for Endocrinology and the invaluable help provided by Julie Cragg, Tracey Curtis, Rachel Austin and Nicci Komlosy. They are grateful to K Davies, the lead author of the Royal College of Nursing 2008 publication *Competencies: An Integrated Career and Competency Framework for Paediatric Endocrine Nurse Specialists* (now revised as reference (11)) for her permission to use the document as a basis for these competencies.

### Contributors and members of the working group:

Chair: V Kieffer MA BSc (Hons) RGN Nurse Independent Prescriber, Endocrine Nurse Specialist, Leicester Royal Infirmary.

#### Members in alphabetical order:

K Davies RN (Child) DipHE BSc (Hons) MSc, Clinical Nurse Specialist in Endocrinology, Great Ormond Street Hospital for Children NHS Trust, London.  
C Gibson BSc (Hons) RGN Nurse Independent Prescriber, Endocrine Specialist Nurse, Manchester Royal Infirmary.

M Middleton RGN Endocrine Specialist Nurse, Aberdeen Royal Infirmary.

J Munday RGN RSCN BSc (Hons) Nurse Independent Prescriber, Lead Nurse Endocrinology, Queen Alexandra Hospital, Portsmouth.

S Shalet BSc (Hons) RN (Adult) MSc PGC Education Nurse Independent Prescriber, Endocrine Specialist Nurse, Salford Royal Hospitals Foundation Trust.

L Shepherd MSc BSc (Hons) DipHE RN (Adult) Nurse Independent Prescriber, Endocrinology ANP, Heart of England NHS Foundation Trust.

P Yeoh RGN BSc MSc Nurse Independent Prescriber, Consultant Nurse in Endocrinology, The London Clinic.

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### Review

A review will take place 3 years after the date of publication.

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Received in final form 17 December 2014

Accepted 17 December 2014

