

NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE

Health Technology Evaluation

Palopegteriparatide for treating chronic hypoparathyroidism [ID6380]

Final scope

**Remit/evaluation objective**

To appraise the clinical and cost effectiveness of palopegteriparatide within its marketing authorisation for treating chronic hypoparathyroidism.

**Background**

Hypoparathyroidism is a condition in which the parathyroid glands in the neck do not produce enough parathyroid hormone, which regulates the levels of calcium and phosphate in the blood. This leads to low blood calcium levels (hypocalcaemia) and raised blood phosphorus levels (hyperphosphataemia). Hypoparathyroidism may be temporary or permanent depending on the cause. Most cases of hypoparathyroidism are caused by accidental damage to or removal of the parathyroid glands following neck surgery, but other causes include autoimmune disease, radiotherapy, congenital, genetic, or idiopathic issues with parathyroid glands, and low magnesium levels.<sup>1</sup>

Symptoms include muscle cramps or pains, tiredness, and a tingling sensation in the hands, feet or around the mouth. People with hypoparathyroidism may also experience blurred vision, dry and rough skin, and coarse hair and nails that break easily. Cognitive symptoms affecting concentration, memory loss or forgetfulness, depression and anxiety may also occur. Symptoms may worsen without treatment and potential complications can include seizures, renal damage, cataracts and cardiovascular events.<sup>1</sup>

Estimates of prevalence of hypoparathyroidism range between 6 and 37 per 100,000 people, which equates to between 3,400 and 20,900 people across England with hypoparathyroidism based on current population estimates.<sup>2,3</sup> Hypoparathyroidism is more common in women than men and incidence is expected to increase over time as more thyroidectomies are performed as a result of rising thyroid cancer rates.<sup>4</sup>

Treatment for hypoparathyroidism is focused on relief of symptoms and improvement in quality of life. Oral calcium supplements and vitamin D analogues such as alfacalcidol or calcitriol can be taken to keep calcium levels stable and within normal range. Thiazide diuretics may also be used. Where there are more acute and severe symptoms of hypocalcaemia, calcium may be given intravenously. Calcium and phosphorus levels may also be managed by following a high-calcium, low-phosphorus diet. Long-term supplementation for hypoparathyroidism may affect kidney function and therefore treatment should aim to keep calcium levels high enough to avoid symptoms of hypocalcaemia but low enough to avoid causing problems with the kidneys linked to high calcium levels, such as kidney stones and calcium deposits in the kidneys (nephrolithiasis).<sup>4</sup>

**The technology**

Palopegteriparatide (Yorvipath, Ascendis Pharma) has a marketing authorisation in the UK for the treatment of adults with chronic hypoparathyroidism.

<b>Intervention(s)</b>	Palopegteriparatide
<b>Population(s)</b>	Adults with chronic hypoparathyroidism
<b>Subgroups</b>	Subgroups based on eGFR and disease severity, if evidence allows
<b>Comparators</b>	<p>Established clinical management without palopegteriparatide, which may include:</p> <ul style="list-style-type: none"> <li>• Teriparatide</li> <li>• Recombinant parathyroid hormone</li> <li>• Vitamin D analogues such as alfacalcidol or calcitrol</li> <li>• Calcium supplements</li> <li>• Magnesium supplements</li> <li>• Thiazide diuretics</li> </ul>
<b>Outcomes</b>	<p>The outcome measures to be considered include:</p> <ul style="list-style-type: none"> <li>• change in physical symptoms such as fatigue</li> <li>• change in cognitive symptoms</li> <li>• hospital admissions</li> <li>• reduction in calcium supplements and vitamin D analogues</li> <li>• calcium levels</li> <li>• serum phosphate levels</li> <li>• renal function (eGFR)</li> <li>• cardiovascular outcomes</li> <li>• mortality</li> <li>• adverse effects of treatment</li> <li>• health-related quality of life.</li> </ul>

<p><b>Economic analysis</b></p>	<p>The reference case stipulates that the cost effectiveness of treatments should be expressed in terms of incremental cost per quality-adjusted life year.</p> <p>The reference case stipulates that the time horizon for estimating clinical and cost effectiveness should be sufficiently long to reflect any differences in costs or outcomes between the technologies being compared.</p> <p>Costs will be considered from an NHS and Personal Social Services perspective.</p> <p>The availability of any commercial arrangements for the intervention, comparator and subsequent treatment technologies will be taken into account.</p> <p>The availability and cost of biosimilar and generic products should be taken into account.</p>
<p><b>Other considerations</b></p>	<p>Guidance will only be issued in accordance with the marketing authorisation. Where the wording of the therapeutic indication does not include specific treatment combinations, guidance will be issued only in the context of the evidence that has underpinned the marketing authorisation granted by the regulator.</p>
<p><b>Related NICE recommendations</b></p>	<p><b>Terminated technology appraisals:</b></p> <p><a href="#">Recombinant human parathyroid hormone for treating hypoparathyroidism (terminated appraisal)</a> (2020). NICE technology appraisal guidance 625.</p>
<p><b>Related National Policy</b></p>	<p>The NHS Long Term Plan (2019) <a href="#">NHS Long Term Plan</a></p> <p>NHS England (2018) <a href="#">NHS manual for prescribed specialist services (2018/2019)</a></p>

**References**

1. NHS (2021). [Hypoparathyroidism](#). Accessed June 2024.
2. Bjornsdottir S, Ing S, Mitchell DM, et al (2022). Epidemiology and financial burden of adult chronic hypoparathyroidism. *Journal of Bone and Mineral Research* 37(12):2602-2614.
3. Office for National Statistics (2022). [Population estimates for the UK, England and Wales, Scotland and Northern Ireland: mid-2021](#). Accessed June 2024.
4. Parathyroid UK (2023). [Hypoparathyroidism - Current treatment](#). Accessed June 2024.