

The Second International Workshop on the Evaluation and Management of Hypoparathyroidism

Over the past several years, following publication of the First International Guidelines on Hypoparathyroidism (HypoPT), important advances have occurred in our understanding of the epidemiology, presentation, etiology, complications, and skeletal and renal manifestations of HypoPT.⁽¹⁾ We have also gained global clinical experience with both conventional therapy and the use of parathyroid hormone (PTH) and its analogues in the treatment of HypoPT. Good-quality data with PTH replacement therapy are now becoming available, evaluating both the safety and efficacy of PTH replacement in the management of chronic HypoPT. With the development of new, long-acting molecules capable of mimicking key aspects of endogenous PTH secretion, improvements in care are being achieved. Considering these significant advances in knowledge and clinical experience, new evidence-based guidelines have been developed to provide direction and to define best practice in the diagnosis, evaluation, and management of HypoPT today.

An international task force was formed consisting of 50 international experts in HypoPT, as well as general endocrinologists from 15 different countries. Task force members met over the past 2 years and addressed key questions pertaining to the diagnosis, prevention, evaluation, and management of HypoPT. Professor Gordon Guyatt supported the development of the evidence-based guidelines and served as the guideline methodology with his PhD student Liang Yao.

Four systematic reviews and meta-analyses were completed using the GRADE methodology, addressing the complications and management of chronic HypoPT.⁽²⁻⁴⁾ In addition, narrative reviews were completed regarding the epidemiology, financial burden, and etiology of HypoPT.^(5,6) The diagnosis and risk factors for the development of postsurgical HypoPT were reviewed. Strategies to minimize the risk of postsurgical HypoPT are presented.⁽⁶⁾ The role of genetic testing in determining the underlying etiology of the HypoPT has been highlighted, as well as an approach to establishing the underlying diagnosis.⁽⁷⁾

The ideal monitoring strategies for patient important outcomes were evaluated,⁽⁸⁾ as well as the utility of PTH and calcium measurements after total thyroidectomy in predicting the development of chronic HypoPT.⁽⁷⁾ Calcium homeostasis in pregnancy and lactation is reviewed with proposed strategies to optimize maternal and fetal outcomes.⁽⁹⁾ The risks and benefits of PTH replacement therapy in comparison to conventional therapy have been evaluated with application of the GRADE methodology.⁽⁹⁾

Our findings and results of the systematic reviews and meta-analyses as well as the graded and ungraded recommendations were presented to representatives of the international endocrine societies in two separate meetings. The recommendations from the international society representatives were also incorporated into the manuscripts whenever possible.

This major global effort was overseen by the steering committee, which provided direction to the four task forces, leading each of the subsections of this major effort. We are most appreciative of the dedication and commitment of the co-chairs of the 4 task forces, which led to the development of the articles listed below summarizing the key advances in HypoPT today.

1. Epidemiology and financial burden: Bart Clarke and Neil Gittoes.⁽⁵⁾
2. Etiologies and pathophysiology: Dolores Shoback and Janice Pasieka.⁽⁶⁾
3. Genetics and diagnosis: Maria Luisa Brandi and Michael Mannstadt.⁽⁷⁾
4. Evaluation and management: Aliya Khan and Lars Rejnmark.⁽⁹⁾

A practice survey determining the optimal monitoring strategy for HypoPT was developed and led by Stan Van Uum and is published as an article in this series.⁽⁸⁾

The systematic reviews and meta-analyses conducted are also being published as separate articles along with a paper dedicated to describing the methodology of the entire guideline process for both HypoPT as well as primary hyperparathyroidism (PHPT).⁽²⁻⁴⁾ The PHPT summary statement and guidelines as well as the articles describing the advances in PHPT are being published in a consecutive issue of *JBMR*.⁽¹⁰⁾

The summary statement and the guidelines for the evaluation and management of HypoPT provide an overview of the key advances in our knowledge and understanding of HypoPT, as well as the evaluation and management recommendations (both graded and ungraded) for HypoPT.⁽¹¹⁾ We have also identified a research agenda for each of the four subsections addressed by the four HypoPT task forces.

We gratefully acknowledge the major efforts of all the task force members who have been working diligently with us over the past 2 years in developing these articles and recommendations.

HypoPT task force members: Dalal S Ali, S Bjornsdottir, Luisella Cianferotti, Michael T Collins, Serge Cremers, Karel Dandurand,

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We also greatly appreciate the feedback and endorsement provided by the 65 scientific international and national societies, and plan on updating the guidelines as new knowledge becomes available over the next several years.

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References

1. Brandi ML, Bilezikian JP, Shoback D, et al. Management of hypoparathyroidism: summary statement and guidelines. *J Clin Endocrinol Metabol.* 2016;101(6):2273-2283.
2. Yao L, Gordan G, Ye Z, et al. Methodology for the guidelines on evaluation and management of hypoparathyroidism and primary hyperparathyroidism. *J Bone Miner Res.* 2022 (Under Review).
3. Yao L, Hui X, Li J, et al. Complications and symptoms in patients with chronic hypoparathyroidism: a systematic review. *J Bone Miner Res.* 2022 (Under Review).
4. Yao L, Li J, Lin C, et al. Parathyroid hormone therapy for managing chronic hypoparathyroidism: a systematic review and meta-analysis. *J Bone Miner Res.* 2022 (Under Review).
5. Bjornsdottir S, Ing S, Mitchell D, et al. Epidemiology and financial burden of adult chronic hypoparathyroidism. *J Bone Miner Res.* 2022 (Under Review).
6. Pasieka JL, Shoback DM, Cremers S, et al. Etiology and pathophysiology of hypoparathyroidism: a narrative review. *J Bone Miner Res.* 2022 (Under Review).
7. Mannstadt M, Cianferotti L, Gafni RI, et al. Approach to hypoparathyroidism: genetics and diagnosis or phenotypes of genetic hypoparathyroidism and current diagnostic approaches. *J Bone Miner Res.* 2022 (Under Review).
8. Van Uum S, Shrayyef M, M'Hiri I, et al. Initial assessment and monitoring of patients with chronic hypoparathyroidism: a systematic current practice survey. *J Bone Miner Res.* 2022 (Under Review).
9. Khan AA, Guyatt G, Ali DS, et al. Evaluation and management of hypoparathyroidism. *J Bone Miner Res.* 2022 (Under Review).
10. Bilezikian JP, Khan AA, Silverberg SJ, et al. Evaluation and management of primary hyperparathyroidism: summary statement and guidelines from the Fifth International Workshop. *J Bone Miner Res.* 2022 (Under Review).
11. Khan AA, Bilezikian JP, Brandi ML, et al. Evaluation and management of hypoparathyroidism: summary statement and guidelines from the Second International Workshop. *J Bone Miner Res.* 2022 (Under Review).