

<b>Title</b>	<b>Home Diagnosis of Obstructive Sleep Apnoea in Children</b>
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<b>Reference</b>	ETMIS 2011 7(5) Printed French edition 978-2-550-62489-9, English summary (PDF)978-2-550-62488-2 <a href="http://www.inesss.qc.ca/fileadmin/doc/INESSS/Rapports/MaladiesRespiratoires/ETMIS2011_Vol7_No5.pdf">http://www.inesss.qc.ca/fileadmin/doc/INESSS/Rapports/MaladiesRespiratoires/ETMIS2011_Vol7_No5.pdf</a> <a href="http://www.inesss.qc.ca/fileadmin/doc/INESSS/Rapports/MaladiesRespiratoires/INESSS_Summary_ApneaChildren_EN.pdf">http://www.inesss.qc.ca/fileadmin/doc/INESSS/Rapports/MaladiesRespiratoires/INESSS_Summary_ApneaChildren_EN.pdf</a>

## Aim

In a report of an investigation into the death of a young child following complications of an adenotonsillectomy, the coroner looked at the need to carry out a diagnostic exploration of obstructive sleep apnoea (OSA) in children with respiratory obstruction due to tonsillar hypertrophy and, more specifically, at the diagnostic performance of portable devices that can be used at home. It was in this context that he asked the Agence d'évaluation des technologies et des modes d'intervention en santé (AETMIS), now the Institut national d'excellence en santé et en services sociaux (INESSS), to evaluate the home diagnostic modalities that could serve as possible alternatives to laboratory polysomnography (PSG) testing for adults and children with obstructive sleep apnoea.

## Conclusions and results

In the studies that demonstrated the efficacy of portable devices, we noted that they were better able to detect moderate to severe apnoea than mild apnoea. The available data were, however, insufficient to draw any conclusions regarding the use of portable devices as alternatives to PSG. The clinical practice guidelines concur with this and recommend the use of PSG but not that of portable cardiorespiratory devices. Despite its low negative predictive value, oximetry is presented as a last resort for detecting the most urgent cases and determining the priority of access to PSG.

INESSS concludes that presently, none of the portable devices for the home diagnosis of OSA can

be considered an alternative to the reference standard test, polysomnography, but in terms of overcoming the difficulty in accessing laboratory PSG, nocturnal oximetry is the best alternative for the initial evaluation for detecting the most severe cases.

## Methods

This report is a systematic review of the efficacy of portable devices for diagnosing OSA in children compared to that of the reference standard test, laboratory PSG. An overview of the current situation in Québec based on consultations with a number of experts is also presented. Several databases, such as MEDLINE by PubMed, The Cochrane Library and EMBASE, were queried. The six studies that were selected examined the issue of using portable devices in children.

## Further research/reviews required

The experts consulted brought up the need to ensure the regular maintenance and replacement of oximetry devices, which are used mainly in the regions (outside of hospitals with a sleep laboratory), and to improve the sleep laboratories' patient intake capacity by increasing human and physical resources.

## Written by

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