



NPHVA Request Form and Admission Criteria for Pediatric Patients Formulaire de Demande et Critères d'Admission Pédiatrique pour le PNAVD

Name / Nom

Address / Adresse

City / Ville

Postal Code / C P

Telephone / Téléphone

Residence / Lieu Résidentiel

Medicare / No. Assurance Maladie

Weight / Poids

Expiration

Height / Taille

DOB / DDN

Mother's Maiden Name

Nom de la mère

Father's Name

Nom du père

Referring Center

Centre référant

Telephone

Téléphone

Following Respirologist

Pneumologue du patient

Telephone

Téléphone

Fax

Télécopieur

Email

Courriel

Language spoken

Langue parlée

English

Anglais

French

Français

Other

Autre

**Check off the
admissible
NPHVA
diagnosis
category**

Cocher la
catégorie du
diagnostic
admissible au
PNAVD/

Neuromuscular Disease / Maladie neuromusculaire

Kyphoscoliosis / Cyphoscoliose

Spinal Injury / Blessé médullaire

Central Apnea with Hypoventilation / Apnée centrale avec hypoventilation

Obesity Hypoventilation / Obésité-Hypoventilation

Cystic Fibrosis / Fibrose Kystique

Severe Obstructive Sleep Apnea with Hypoventilation / Apnée obstructive sévère avec hypoventilation

Other: Chronic Idiopathic Hypoventilation / Autre : hypoventilation chronique idiopathique

**Specific
Diagnosis /
Préciser le
diagnostic**

Other known illnesses/conditions

Autres maladies/conditions connues

Additional Information

Informations
complémentaires

Diagnostic data required for admission to NPHVA / Données diagnostiques nécessaires à l'admission au PNAVD

- Patient's medical history / Anamnèse du patient**
- List of medications / Liste de médicaments**

Please refer to the annexed list to determine required documents for each eligible diagnosis.

Veillez vous référer à notre liste en annexe de ce formulaire pour joindre les documents requis à chacun des diagnostics admissibles.

For informational purposes, please select the hypoventilation signs and symptoms that are applicable to the patient.

À titre informatif, veuillez cocher les signes et symptômes d'hypoventilation présents chez ce patient.

- Dyspnea / Dyspnée**
- Weight loss / Perte de poids**
- Fatigue**
- Trouble at school / Épreuve des difficultés scolaires**
- Repetitive hospitalization for decompensation / Hospitalisations répétitives pour décompensation respiratoire**
- Morning headaches / Céphalées matinales**
- Asymptomatic / Asymptomatique**

Has this patient ever received positive pressure ventilation (Bipap or CPAP)?

Le patient a-t-il déjà reçu une ventilation via pression positive (BIPAP ou CPAP)?

Yes
Oui

No
Non

Please include the completed prescription form (annexed to this document).

Assurez-vous de joindre la Rx ventilatoire dûment complétée en annexe de ce formulaire.

Identify the type of interface (mask) used by the patient if known (model, nasal, facial, size).

Préciser le type d'interface qui a été utilisé par le patient (modèle, nasal, facial, grandeur) si connu.

IMPORTANT

Only requests with all the required information will be treated. A letter confirming the reception of your request as well as the admissibility of the patient will be sent to you.

Seules les demandes de consultation contenant toutes les informations nécessaires seront traitées.
Une lettre confirmant la réception de votre demande ainsi que l'admissibilité de votre patient vous sera envoyée.

**Please email your request and required documents to: pnavd@muhc.mcgill.ca
or fax to: 514-843-2077. For more information contact 514-934-1934, ext: 32111**

Veillez envoyer votre demande ainsi que les documents requis à l'adresse courriel suivant: pnavd@muhc.mcgill.ca
ou au numéro de fax: 514-843-2077. Si vous avez des questions contacter le 514-934-1934, poste : 32111.

SPECIFIC ADMISSION CRITERIA PEDIATRIC PATIENTS

SPECIFIC REQUIREMENTS ACCORDING TO THE FOLLOWING DIAGNOSIS:

Neuromuscular Disease and Kyphoscoliosis

→ Presence of at least *one* of the following symptoms:

- Proof of daytime alveolar hypoventilation with a $PCO_2 \geq 45$ mmHg (capillary or arterial blood gas, $EtCO_2$ or transcutaneous PCO_2 (Ptc CO_2));
- Proof of nocturnal hypoventilation shown via oximetry, nocturnal Ptc CO_2 or polysomnography (PSG);
- Patients with a progressive neuromuscular disease and who have short term nocturnal ventilation (Ex: DMD, spinal amyotrophy, etc.). For this particular patient category, sleep disorders can present itself as a simple obstructive phenomenon, but can, in the short term, lead to hypoventilation syndrome.

→ Required information for this diagnosis:

- Neuromuscular disease or kyphoscoliosis;
- Nocturnal study demonstrating hypoventilation;
- Measured daytime CO_2 (capillary or arterial blood gas, $EtCO_2$ or Ptc CO_2);
- Spirometry if > 6 years old and whose tests can adequately be performed, if available;
- Mention if recent weight loss.

Spinal Injury

- Patients requiring ventilation as a result of a spinal injury;
- Spirometry, if available.

Central Apnea with Hypoventilation

→ Presence of at least one of the following symptoms:

- Diagnosis of central congenital hypoventilation syndrome;
- Presence of alveolar nocturnal hypoventilation demonstrated on a polysomnography (PSG), associated exclusively or predominately with central apnea/hypopnea.

→ Required information for this diagnosis:

- Results of a PSG that shows a central nocturnal hypoventilation;
- Proof that CPAP treatment with adequate pressures is insufficient for patients with predominant obstructive apnea;
***see criteria on page 5.
- Proof of daytime alveolar hypoventilation with a $PCO_2 \geq 45$ mmHg (capillary or arterial blood gas, $EtCO_2$ or Ptc CO_2) if available.

** Please note that this information is not required for the diagnosis of central congenital hypoventilation syndrome.*

Cystic Fibrosis

→ Required information for this diagnosis:

- Confirmation that the patient is on the transplant list;
OR
- Hospitalization summaries which report hospital admission due to hypercapnic respiratory failure ($PCO_2 \geq 50$ mmHg : arterial, capillary, $EtCO_2$ or $TcPCO_2$) who responded favourably to non-invasive ventilation during their hospitalization.

Obesity-Hypoventilation

→ Required information for this diagnosis:

- BMI demonstrating obesity: $\geq 95^{\text{th}}$ percentile growth curve;
- Recent PSG results showing that even with adequate pressures, treatment cannot be sufficiently corrected by CPAP *** (see page 5) as demonstrated by a significant nocturnal hypoventilation (increase in $PaCO_2$ greater than 10 mmHg compared to values obtained while awake) or $>25\%$ total sleep time with a $PCO_2 \geq 50$ mmHg¹ or nocturnal oxygen desaturation (SaO_2 inferior to 92% for at least 5 consecutive minutes)²;
- Daytime CO_2 measure (capillary or arterial blood gas, $EtCO_2$ or $PtcCO_2$).

Severe Obstructive Apnea with Hypoventilation

Presence of severe obstructive apnea associated with one or more co-morbidities for which surgery will not significantly improve its evolution in the short or medium term (ex: Pierre-Robin syndrome, vocal cord paralysis or Down syndrome).

→ Required information for this diagnosis:

- Recent PSG results showing that CPAP treatment is inefficient *** (see page 5) as demonstrated by a significant nocturnal hypoventilation (increase in $PaCO_2$ greater than 10 mmHg compared to values obtained while awake) or nocturnal oxygen desaturation (SaO_2 inferior to 92% for at least 5 consecutive minutes);
- Nocturnal oximetry demonstrating a significant nocturnal hypoventilation with nocturnal oxygen desaturation (SaO_2 inferior to 92% for at least 5 consecutive minutes);
- Daytime CO_2 measure (capillary or arterial blood gas, $EtCO_2$ or $PtcCO_2$).

Other: Chronic Idiopathic Hypoventilation:

→ Required information for this diagnosis:

- Proof of daytime alveolar hypoventilation with a $PCO_2 \geq 45$ mmHg (capillary or arterial blood gas, $EtCO_2$ or $PtcCO_2$);
OR
- Recent PSG results;
- Nocturnal oximetry demonstrating nocturnal oxygen desaturation (SaO_2 inferior to 92% for at least 5 consecutive minutes).

*****CPAP failure demonstrated by one of the following criteria:**

Observed on the sleep polysomnography (PSG):

- a. Increase in PaCO₂ greater than 10 mmHg compared to values obtained while awake¹;
- b. Nocturnal oxygen desaturation (SaO₂ inferior to 92% for at least 5 consecutive minutes)²;
- c. ≥25% total sleep time with a PCO₂ ≥ 50 mmHg;
- d. Mixed or obstructive AHI index > 5 with persistent clinical obstructive sleep apnea signs.

Here are the recommended CPAP pressures for the following age category:

- 5 cmH₂O until 1 year old;
- 8 cmH₂O until 12 years old;
- 10 cmH₂O for teenagers.

If you have difficulty obtaining a permanent resource for a sleep polysomnography (PSG), the following criterion can be considered as eligible:

- a. Presence of these 2 nocturnal oximetry criterion³:
 - A minimum of 3 grouped desaturations (grouped desaturation = minimum of 5 desaturations with a 4% drop over a 30-minute period);
 - A minimum of 3 desaturations under 90%;
- b. A CO₂ level:
 - ≥ 50 mmHg while sleeping with a CPAP;
 - OR
 - Greater than 10 mmHg increase compared to values obtained while awake;
- c. Proof of daytime alveolar hypoventilation with a PCO₂ ≥ 45 mmHg (capillary or arterial blood gas, EtCO₂ or TPCO₂), after the use of a CPAP at night. This measure must be done during the day and not when waking up.

IMPORTANT:

When the above-mentioned criterion are not met, the referring physician can decide to start the child on BiPAP treatment, even though the child is not admissible to the NPHVA.

¹ Berry et al.; Rules for scoring respiratory events in sleep: update of the 2007 AASM Manual for the Scoring of Sleep and Associated Events. Deliberations of the Sleep Apnea Definitions Task Force of the American Academy of Sleep Medicine; J Clin Sleep Med 2012 (8) 567–619.

² Modified for Pediatrics by NPHVA Consensus based on: Clinical indications for non-invasive positive pressure ventilation in chronic respiratory failure due to restrictive lung disease, COPD, and nocturnal hypoventilation—a consensus conference report; Chest 1999 (116) 521–534

³ Modified by NPHVA consensus based on: Kaditis A, Kheirandish-Gozal L, Gozal D. Pediatric OSAS: Oximetry can provide answers when polysomnography is not available. Sleep Med Rev. 2016 Jun; 27:96–105