COLLEGE OF PHYSICIANS AND SURGEONS OF BRITISH COLUMBIA

Diagnostic Accreditation Program

ACCREDITATION STANDARDS

Home Sleep Apnea Testing

Diagnostic Accreditation Program
College of Physicians and Surgeons of British Columbia
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Introduction

Home sleep apnea testing (HSAT) is a diagnostic sleep study conducted by a patient in their home that measures their breathing, oxygen levels and heart rate while asleep.

While the industry best practice for diagnosing sleep disorders has been an overnight, attended polysomnography, HSAT is a valuable and appropriate diagnostic tool used in the investigation of patients with a moderate to high clinical suspicion of obstructive sleep apnea (OSA) with no significant comorbidities. This is routinely conducted as an ambulatory test and measures key physiological parameters.

The methodology of how HSAT is conducted may be varied; however, the preferred method is for the diagnostic equipment and instructions are provided to the patient in person at the approved facility. Facilities approved to provide services to rural or remote communities may elect to have the equipment distributed to the patient directly but must adhere to the Ministry of Health's requirements (see policy 2.4.3 of the *Policies and Guidelines of the Medical Services Commission's Advisory Committee on Diagnostic Facilities* for detailed criteria regarding provision of remote HSAT service). Facilities must demonstrate the ability to deliver instructions using virtual means and triage any challenges related to equipment and set-up.

Patient orientation

No.		Description	Risk	Reference	Change
HSAT1.0		**PATIENT ORIENTATION**		DAP HSAT 2021	
HSAT1.1		**Patients are orientated and prepared for the test being performed.**			New
HSAT1.1.1	**M**	Patient preparation instructions are clearly communicated.	M		New
HSAT1.1.2	**M**	Patients are orientated to their testing equipment in person. *Guidance: Only facilities approved by the Ministry may provide direct services to patients in designated rural or remote communities.*	M		New
HSAT1.1.3	**M**	Patients are informed of the procedure to contact staff for assistance with technical issues.	M		New
HSAT1.1.4	**M**	Patient set-up with the equipment is conducted by qualified staff who have appropriate training and experience.	M		New
HSAT1.2		**Pre-test information is collected.**			New
HSAT1.2.1	**M**	A medical history is obtained prior to testing. *Guidance: Medical history may be provided by a physician's consultation letter or details on a referral form.*	M	POLY-AC-24	New
HSAT1.2.2	**M**	A sleep questionnaire is obtained prior to testing.	L	POLY-AC-24	New
HSAT1.2.3	**M**	The criteria for intake or sleep questionnaire is approved by the medical director.	L		New
HSAT1.3		**Remote services are conducted according to accepted best practices and established testing protocols.**			New
HSAT1.3.1	**M**	Remote HSAT services are only conducted by identified ministry-approved facilities for services to designated rural/remote communities.	M	Medicare Protection Act MoH	New
HSAT1.3.2	**M**	Patient instructions for use include a video or virtual component. Pre-recorded instructions are not acceptable. *Guidance: The preferred method of instructions for patient set-up is in person; however, virtual teaching can be used and the facility should follow the patient's choice.*	M	POLY-AC-24	New
HSAT1.3.3	**M**	There is a process in place for sending and receiving equipment.	M	POLY-AC-24	New

No.		Description	Risk	Reference	Change
HSAT1.3.4	**M**	The facility ensures that previous testing data is cleared from the device prior to testing.	L	POLY-AC-24	New
HSAT1.3.5	**M**	There is a process to ensure the battery will last for the duration of the test. *Guidance: This is done to ensure that the testing equipment is not compromised by dead batteries.*	L	POLY-AC-24	New
HSAT1.3.6	**M**	There is a process for patients to contact the facility if there is any equipment or setup issues.	L	POLY-AC-24	New
HSAT1.3.7	**M**	Repeat testing is done at the discretion of the medical director and the reason is documented.	M	POLY-AC-24	New
HSAT1.3.8	**M**	The facility ensures that all tests conducted remotely are identifiable and the rationale for remote service provision is documented (e.g. log).	L	POLY-AC-24	New

HSAT recording

No.		Description	Risk	Reference	Change
HSAT2.0		**HSAT RECORDING**		DAP HSAT 2021 AASM 2022	NEW
HSAT2.1		**HSAT is standardized and recorded in a manner to ensure accurate results for interpretation.**		POLY-AC-24	New
HSAT2.1.1	**M**	Tests are only performed on patients who are suspected of having a moderate to high pretest probability of obstructive sleep apnea (OSA) or by the approval by a qualified physician. *Guidance: Patients that are tested, but do not meet the defined criteria are evaluated by a qualified physician and the reason is documented.*	H	AASM 2022 CTS 2010	New
HSAT2.1.2	**M**	Tests are not used for the screening of asymptomatic patients.	M	GOV BC GPAC	New
HSAT2.1.3	**M**	Tests are not used on pediatric patients or patients where significant comorbid medical conditions exist. *Guidance: The diagnosis of OSA using HSAT testing in patients with significant comorbid conditions may degrade the accuracy of the test. Additional information for exclusion criteria can be found on the Ministry of Health standardized requisition and guidelines.*	H	AASM 2022 CTS 2010 GOV BC GPAC	New
HSAT2.1.4	**M**	Tests are not used for patients suspected of having other sleep disorders, including central sleep apnea, periodic limb movement disorder (PLMD), insomnia, parasomnias, circadian rhythm disorders, or narcolepsy. *Guidance: Other sleep disorders and clinical presentation can impact the accuracy of the test.*	H	AASM 2022	New
HSAT2.1.5	**M**	The rationale for initiating HSAT testing is documented.	M		New
HSAT2.1.6	**M**	The criteria for re-testing is defined. *Guidance: If a repeat test is required the reason is documented in the medical record.*	M		New
HSAT2.1.7	**M**	A minimum of four hours of data are obtained from all channels. *Guidance: If less than four hours of acceptable data is obtained the interpreting physician should evaluate for a repeat test.*	L		New
HSAT2.1.8	**M**	A post-test sleep questionnaire is obtained.	L		New

No.		Description	Risk	Reference	Change
HSAT2.1.9	**M**	HSAT data is manually scored.	H	AASM 2022	New
HSAT2.1.10	**M**	Raw data is available to the interpreting physician for review.	M	AASM 2022	New
HSAT2.1.11	**M**	There is a process to ensure that there is full disclosure and availability of unscored data.	M	ASA 2016	New
HSAT2.1.12	**M**	Previous patient recording is cleared prior to use and the device is initialized for the new test.	M		New
HSAT2.1.13	**M**	In-line filters are appropriately used to reduce the risk of transmission of infections. *Guidance: In-line filter are a barrier to transmission of infections and reduces moisture. A risk assessment is conducted to ensure the appropriateness of its use and possible impact on signal strength. Manufacturers' recommendations are considered in the decision-making process.*	H	POLY-AC-24	New
HSAT2.2		**HSAT measured parameters are comprehensive and provide all the necessary information for interpretation.** *Guidance: Stand-alone microphones, thermistors and electrodes are not used as part of the diagnostic test.*		AASM Scoring Manual V3.0	New
HSAT2.2.1	**M**	Monitoring of HSAT testing includes respiratory/ventilatory effort or equivalent.	M		New
HSAT2.2.2	**M**	Monitoring of HSAT testing includes airflow (e.g. nasal pressure).	M		New
HSAT2.2.3	**M**	Monitoring of HSAT testing includes pulse rate.	M		New
HSAT2.2.4	**M**	Monitoring of HSAT testing includes SpO_2% (oxygen saturation).	M		New
HSAT2.2.5	**B**	Monitoring of HSAT testing includes body position.			New
HSAT2.2.6	**B**	Monitoring of HSAT testing includes snoring.			New

Analysis and scoring

No.		Description	Risk	Reference	Change
				DAP HSAT 2021	
HSAT3.0		**ANALYSIS AND SCORING FOR HSAT**			NEW
HSAT3.1		**Analysis of test data is conducted in a way that ensures meaningful, relevant, and accurate data are reported.**			New
HSAT3.1.1	**M**	HSAT data is scored manually by a RPSGT.	H	AASM 2022	New
HSAT3.2		**Scoring of test data is conducted in a way that ensures meaningful, relevant, and accurate data are reported.**		AASM Scoring Manual V3.0	New
HSAT3.2.1	**M**	Scoring of HSAT includes hypopneas.	M		New
HSAT3.2.2	**M**	Scoring of HSAT includes apneas.	M		New
HSAT3.2.3	**M**	Scoring of HSAT includes the type of apnea (e.g. obstructive, central and mixed apneas).	M		New
HSAT3.2.4	**M**	Abnormal breathing patterns are identified and noted in the comments (e.g. Cheyne-Stokes breathing).	M		New
HSAT3.2.5	**M**	Scoring of HSAT includes artifact.	M		New
HSAT3.2.6	**M**	Scoring of HSAT includes loss of signal.	M		New
HSAT3.2.7	**M**	Scoring of HSAT includes oxygen saturation.	M		New

Technical summary

No.		Description	Risk	Reference	Change
HSAT4.0		**TECHINCAL SUMMARY FOR HSAT**		DAP HSAT 2021 AASM 2022	NEW
HSAT4.1		**Technical summary is standardized in a way that ensures meaningful and accurate data is reported.**		AASM Scoring Manual V3.0	New
HSAT4.1.1	**M**	Type of recording device.	L		New
HSAT4.1.2	**M**	Total recording time. *Guidance: Total recording time includes identified artifact and awake periods.*	M		New
HSAT4.1.3	**M**	Total analysis time for airflow and oxygen saturation (hr:min).	M		New
HSAT4.1.4	**B**	Number of snoring events.	L		New
HSAT4.1.5	**M**	Number of hypopneas.	L		New
HSAT4.1.6	**M**	Number of obstructive and central apneas.	L		New
HSAT4.1.7	**M**	Number of mixed apneas.	L		New
HSAT4.1.8	**M**	Apnea hypopnea index (AHI), if total sleep time is recorded.	H		New
HSAT4.1.9	**M**	REI (respiratory event index), if total sleep time is not recorded.	H		New
HSAT4.1.10	**B**	RDI (respiratory disturbance index).			New
HSAT4.1.11	**M**	Pulse rate (e.g. average, highest, lowest).	M		New
HSAT4.1.12	**M**	Oxygen desaturation index (ODI) is derived from monitoring time.	M		New
HSAT4.1.13	**M**	Oxygen saturation (mean, maximum, minimum).	M		New
HSAT4.1.14	**M**	Oxygen saturation % time ≤ 88% or other thresholds as defined by the diagnostic service.	M		New
HSAT4.1.15	**M**	Technical comments are reported by the scorer to provide additional relevant information to the interpreting physician.	M		New

References

Abbreviation	Reference
AASM 2022	American Academy of Sleep Medicine. AASM Standards for Accreditation of Sleep Disorders Centers. 2022 [cited 2024 Aug 9]. Available from: https://aasm.org/resources/pdf/aasmcenteraccredstandards.pdf
AASM Scoring Manual V3.0	American Academy of Sleep Medicine. The AASM Manual for Scoring Sleep and Associated Events. Rules, Terminology and Technical Specifications. Version 3.0. 2023
ASA 2016	Australasian Sleep Association. ASA NATA standards for sleep disorders services. Sleep.org.au. [cited 2024 Aug 9]. Available from: https://www.sleep.org.au/common/Uploaded%20files/Public%20Files/Professional%20resources/Sleep%20Documents/ASA%20NATA%20standards.pdf
CPSBC-BYLAWS	College of Physicians and Surgeons of British Columbia. Bylaws [Internet]. Vancouver: College of Physicians and Surgeons of British Columbia; 2009 [revised 2023 Jan 13].
CTS 2010	Canadian Thoracic Society. Sleep Disordered Breathing Committee. Portable Monitoring for the Diagnosis of Obstructive Sleep Apnea: Canadian Thoracic Society/Canadian Sleep Society Joint Position Paper. 2010 [cited 2024 Aug 9]. Available from: https://cts-sct.ca/wp-content/uploads/2018/01/CSS-CTS-Sleep-Portable-Monitoring_2010.pdf
GOV BC GPAC	British Columbia Ministry of Health. Diagnostic facilities: Obstructive Sleep Apnea: Assessment and Management in Adults D [Internet]. Victoria (BC): Government of British Columbia; 2021 [cited 2024 Aug 9]. https://www2.gov.bc.ca/gov/content/health/practitioner-professional-resources/bc-guidelines/sleep-apnea
GOV BC OSA	British Columbia Ministry of Health. Diagnostic facilities: Diagnostic sleep appendix D [Internet]. Victoria (BC): Government of British Columbia; 2020 [cited 2024 Aug 9]. Available from: https://www2.gov.bc.ca/assets/gov/health/practitioner-pro/medical-services-plan/diagnostic-facilities/diagnostic-sleep-appendix-d.pdf

Abbreviation	Reference
HSAT DAP 2021	College of Physicians and Surgeons of British Columbia. Accreditation standard: Home sleep apnea testing [Internet]. Vancouver (BC): Diagnostic Accreditation Program; 2021 [cited 2024 Aug 9]. Available from: https://www.cpsbc.ca/files/pdf/DAP-AS-Home-Sleep-Apnea-Testing-V1.0.pdf.
JRCC	Flemons WW, Douglas NJ, Kuna ST, Rodenstein DO, Wheatley J. Access to diagnosis and treatment of patients with suspected sleep apnea. Am J Respir Crit Care Med. 2004 Mar 15;169(6):668-72.
JSCM 2018	Rosen, I. M., Kirsch, D. B., Carden, K. A., Malhotra, R. K., Ramar, K., Aurora, R. N., … American Academy of Sleep Medicine Board of Directors (2018). Clinical Use of a Home Sleep Apnea Test: An Updated American Academy of Sleep Medicine Position Statement. Journal of clinical sleep medicine: JCSM: official publication of the American Academy of Sleep Medicine, 14(12), 2075–2077. doi:10.5664/jcsm.7540
MoH Sleep	British Columbia Ministry of Health. Sleep apnea: assessment and management. BC Guidelines. 2019 Mar 11 [cited 2024 Aug 9]; Available from: https://www2.gov.bc.ca/gov/content/health/practitioner-professional-resources/bc-guidelines/sleep-apnea#resources
POLY-AC-24	College of Physicians and Surgeons of British Columbia. Diagnostic Accreditation Program. Polysomnography Advisory Committee. 2024.