6-Minute Walk Test (6MWT) Information

What is the 6MWT?

- The 6MWT is a self-paced walking test that measures the distance of one's ability to walk on a hard, flat surface for 6 minutes; the goal is for one to walk as far as possible in 6 minutes.[1,2]
- Originally developed for assessment of aerobic activity in patients with respiratory disease, the 6MWT is now validated in other patient populations such as those with musculoskeletal disease.[1] The 6MWT has been used in clinical studies as a measure for patients with muscular and metabolic disorders and rare diseases.[1]

Why is the 6MWT used?

- A recent review of functional walking tests concluded that the 6MWT is easier to administer, better tolerated, and more reflective of activities of daily living than the other walk tests.[4]
- The 6MWT is a reliable and valid measure in children, adolescents, and adults with hypophosphatasia (HPP) signs and symptoms first occurring before 18 years of age.[1]

When is the 6MWT used?

- This test can be used to monitor one's response to treatments for heart, lung, musculoskeletal, and other health problems reflecting the exercise level required to perform activities of daily living.[1]
- The 6MWT has also been used as a one-time measure of functional status for patients and as a predictor of morbidity and mortality.[3]

Where is the 6MWT conducted?

- A 30-meter (~100-foot) hard, flat surface, such as a hallway, is ideal for the administration of the 6MWT.[2,3]
- Conducive outdoor areas may be used if deemed appropriate by medical staff.[3]

6MWT execution

HOW IS THE TEST CONDUCTED?[3,5]

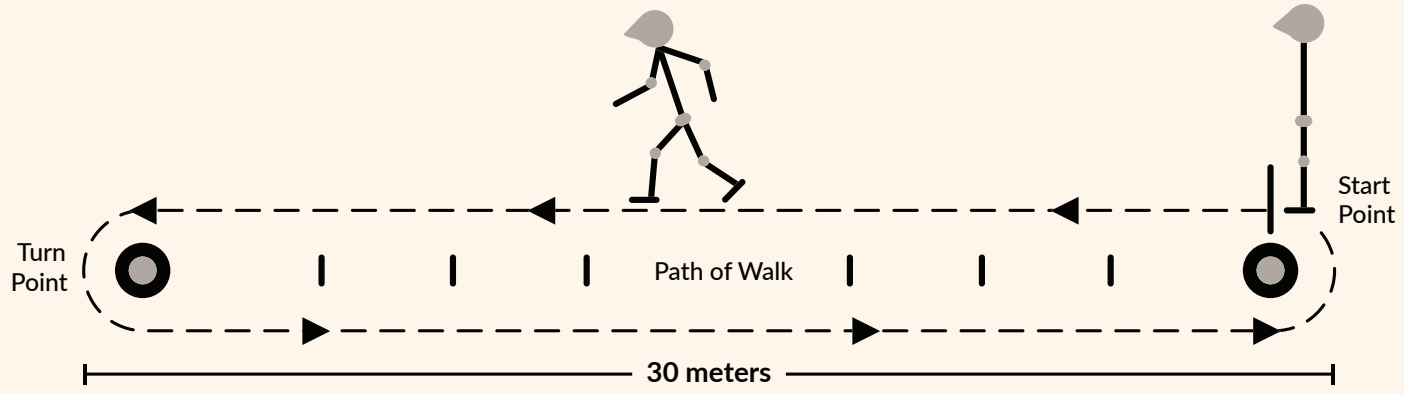
- The objective of the test is to walk as far as possible for 6 minutes
  - If unable to walk in a straight line, walking at a normal pace to a chair or cone, then turning around and continuing for 6 minutes is acceptable (*See Figure A below*)
- It is acceptable to slow down, rest, or stop. Medical staff should give an update after every passing minute interval

RECOMMENDED TESTING EQUIPMENT[2,3]

- Stopwatch or timer
- Chair if patient needs to rest during 6MWT administration
- 30 meters (~100 feet) of hard, flat walking area
- Two small cones or bright tape to mark turnaround points

You can find more information regarding the administration of the 6MWT in the official guidelines published by the American Thoracic Society.

FIGURE A: VISUALIZATION OF A 6MWT ON A HARD, FLAT SURFACE[6]



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Why is the 6-Minute Walk Test (6MWT) recommended for patients prescribed STRENSIQ® (asfotase alfa)?

STRENSIQ is indicated for the treatment of patients with perinatal/infantile- and juvenile-onset hypophosphatasia (HPP). Please see the Important Safety Information on page 4 for STRENSIQ.

The 6MWT may be required by health plans as criteria for a prior authorization (PA) or a reauthorization to access STRENSIQ.

Examples of Common 6MWT PA Criteria for STRENSIQ[7,8]

- Gait disturbance such as delayed walking or waddling gait:
  - Must provide results of a recent (within 12 months) 6MWT showing lower than expected results
- Has the patient experienced an improvement in the 6MWT compared to baseline?
  - If yes, please submit medical record of distance walked in the 6MWT

Examples of Common Reauthorization/Continuation of Therapy 6MWT Criteria for STRENSIQ[7,9]

- Improvement in the 6MWT
- Member has experienced an improvement in the 6MWT compared to baseline

How to code/bill for the 6MWT

The following Current Procedural Terminology (CPT®) code may be appropriate to report administration of the 6MWT in physician office and hospital outpatient facilities:

CPT[10]	Description
94618	Pulmonary stress testing (eg, 6-Minute Walk Test), including measurement of heart rate, oximetry, and oxygen titration, when performed

Please note that Medicare has a Local Coverage Determination (LCD) for 6MWT.[11] If billing Medicare, the LCD should be reviewed prior to submitting a claim to ensure all LCD requirements are met.

CPT Modifiers

The 6MWT CPT, 94618, is considered a diagnostic test and, as such, has both a technical and professional component. If only one component needs to be reported, the appropriate modifier should be added:

Modifier[10,12]	Description	Appropriate Use[13]
26	Professional Component	The professional component consists of the interpretation of the test and the report subsequently generated by the physician
TC	Technical Component	The technical component which captures the expenses related to the performance of the test, including the cost of technicians, equipment, and space. The technical component charges are institutional charges and not billed separately by physicians

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Example of a 6-Minute Walk Test (6MWT) Report[3,14]

Patient name: Patient ID #:

Walk #: Tech ID: Date:

Gender: Male Female Age: Race:

Weight: lbs, kgs Height: feet inch(s), meters

Medications taken before the test (dose and time):

Use of supplemental oxygen during the test: No Yes, flow L/minute, type:

Fall risk assessment *(Check all that apply)*:

- ☐ Unsteady gait/dizziness/imbalance
- ☐ History of falls
- ☐ Weakness
- ☐ Uses ambulatory assistance (eg, cane, walker)
- ☐ Impaired memory or judgment

	Baseline	End of Test	
Time	:	:	
Heart Rate			
Blood Pressure			
Dyspnea			(Borg scale)
Fatigue			(Borg scale)
SpO2	%	%	

Borg Scale	
0	Nothing at all
0.5	Very, very slight (just noticeable)
1	Very slight
2	Slight (light)
3	Moderate
4	Somewhat severe
5	Severe (heavy)
6	
7	Very severe
8	
9	
10	Very, very severe (maximal)

The Borg Scale may be shown to the patient to self-grade their level of 1) dyspnea and 2) fatigue both prior to and following the 6MWT.

Stopped or paused before 6 minutes? No Yes, reason:

Other symptoms at end of exercise: ☐ angina ☐ dizziness ☐ hip, leg, or calf pain ☐ other:

Number of laps: (x60 meters) + final partial lap: meters:

Total distance walked in 6 minutes: meters:

Medical staff comments:

Example report adapted from the American Thoracic Society's and the University of Alabama at Birmingham Hospital's 6MWT reports.

kgs, kilograms; **L,** liter; **lbs,** pounds; **SpO2,** oxygen saturation.

References: 1. Phillips D, Tomazos IC, Moseley S, L'Italien G, Gomes da Silva H, Lara SL. Reliability and validity of the 6-minute walk test in hypophosphatasia. *JBMR Plus*. 2019;3(6):e10131. doi:10.1002/jbm4.10131. **2.** American College of Rheumatology. Six minute walk test (6MWT). Accessed October 21, 2022. https://www.rheumatology.org/I-Am-A/Rheumatologist/Research/Clinician-Researchers/Six-Minute-Walk-Test-SMWT **3.** ATS Committee on Proficiency Standards for Clinical Pulmonary Function Laboratories. ATS statement: guidelines for the six-minute walk test. *Am J Respir Crit Care Med*. 2002;166(1):111-117. doi:10.1164/ajrccm.166.1.at1102 **4.** Butland RJA, Pang J, Gross ER, Woodcock AA, Geddes DM. Two-, six-, and 12-minute walking tests in respiratory disease. *Br Med J*. 1982;284(6329):1607-1608. Accessed October 19, 2022. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1498516/ **5.** American Lung Association. Six-minute walk test. Accessed October 21, 2022. https://www.lung.org/lung-health-diseases/lung-procedures-and-tests/six-minute-walk-test#:~:text=The%20American%20Thoracic%20Society%20describes,your%20heart%20and%20lung%20function **6.** Benavent-Caballer V. *The effectiveness of exercise interventions and the factors associated with the physical performance in older adults*. Thesis. University CEU Cardenal Herrera; 2016. Accessed November 14, 2022. https://www.researchgate.net/profile/Vicent-Benavent-Caballer/publication/315698817_The_effectiveness_of_exercise_interventions_and_the_factors_associated_with_the_physical_performance_in_older_adults/links/58dce4d7aca2725c47619b5e/The-effectiveness-of-exercise-interventions-and-the-factors-associated-with-the-physical-performance-in-older-adults.pdf **7.** Gateway Health. Prior authorization criteria. Strensiq (asfotase alfa). Accessed October 19, 2022. https://fm.formularynavigator.com/FormularyNavigator/DocumentManager/Download?clientDocumentId=eosAKirm0U2mSKWiD46Png **8.** CVS Caremark. Strensiq prior authorization request form. CareFirst. Accessed October 19, 2022. https://member.carefirst.com/carefirst-resources/provider/pdf/drug/Strensiq-Web.pdf **9.** CVS Caremark. Specialty guideline management. Strensiq (asfotase alfa). 2021. North Carolina State Health Plan for Teachers and State Employees. Accessed October 19, 2022. https://www.shpnc.org/media/1100/open **10.** 2023 CPT Professional. American Medical Association; 2022. CPT © 2022 American Medical Association. All rights reserved. CPT® is a registered trademark of the American Medical Association. **11.** CMS.gov. Billing and Coding: Pulmonary Function Testing. Revised October 1, 2022. Accessed October 19, 2022. https://www.cms.gov/medicare-coverage-database/view/article.aspx?articleId=57216 **12.** Centers for Medicare & Medicaid Services. January 2022 alpha numeric HCPCS file. Updated January 26, 2022. Accessed October 19, 2022. https://www.cms.gov/Medicare/Coding/HCPCSReleaseCodeSets/HCPCS-Quarterly-Update **13.** Agarwala P, Salzman SH. Six-minute walk test: clinical role, technique, coding, and reimbursement. *Chest*. 2020;157(3):603-611. Accessed October 19, 2022. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7609960/ **14.** Bittner V. Role of the 6-minute walk test in cardiac rehabilitation. In: Kraus WE, Keteyian SJ, eds. *Cardiac Rehabilitation: Contemporary Cardiology*. Humana Press Inc.; 2007:131-139. Accessed November 4, 2022. https://doi.org/10.1007/978-1-59745-452-0_1

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INDICATION & IMPORTANT SAFETY INFORMATION for STRENSIQ® (asfotase alfa) 40mg/mL vial

INDICATION

STRENSIQ® is indicated for the treatment of patients with perinatal/infantile- and juvenile-onset hypophosphatasia (HPP).

IMPORTANT SAFETY INFORMATION
WARNINGS AND PRECAUTIONS

- **Hypersensitivity Reactions,** including anaphylaxis, have been reported in STRENSIQ-treated patients. Signs and symptoms consistent with anaphylaxis included difficulty breathing, choking sensation, nausea, periorbital edema, and dizziness. These reactions have occurred within minutes after subcutaneous administration of STRENSIQ and have been observed more than 1 year after treatment initiation. Other hypersensitivity reactions have also been reported in STRENSIQ-treated patients, including vomiting, fever, headache, flushing, irritability, chills, skin erythema, rash, pruritus and oral hypoesthesia.

  Inform patients and/or caregivers of the signs and symptoms of hypersensitivity reactions and have them seek immediate medical care should signs and symptoms occur. If a severe hypersensitivity reaction occurs, discontinue STRENSIQ treatment and initiate appropriate medical treatment. Consider the risks and benefits of re-administering STRENSIQ to individual patients following a severe reaction. If the decision is made to re-administer the product, monitor patients for a reoccurrence of signs and symptoms of a severe hypersensitivity reaction.

- **Lipodystrophy:** Localized lipodystrophy, including lipoatrophy (depression in the skin) and lipohypertrophy (enlargement or thickening of tissue), has been reported at injection sites after several months in patients treated with STRENSIQ in clinical trials. Advise patients to follow proper injection technique and to rotate injection sites.

- **Ectopic Calcifications:** Patients with HPP are at increased risk for developing ectopic calcifications. Events of ectopic calcification, including ophthalmic (conjunctival and corneal) and renal (nephrocalcinosis, nephrolithiasis), have been reported in the clinical trial experience with STRENSIQ. There was insufficient information to determine whether or not the reported events were consistent with the disease or due to STRENSIQ. No visual changes or changes in renal function were reported resulting from the occurrence of ectopic calcifications.

  Ophthalmology examinations and renal ultrasounds are recommended at baseline and periodically during treatment with STRENSIQ to monitor for signs and symptoms of ophthalmic and renal ectopic calcifications and for changes in vision or renal function.

- **Possible Immune-Mediated Clinical Effects:** In clinical trials, most STRENSIQ-treated patients developed anti-asfotase alfa antibodies and neutralizing antibodies which resulted in reduced systemic exposure of asfotase alfa. In postmarketing reports, some STRENSIQ-treated patients with initial therapeutic response subsequently developed recurrence and worsening in disease-associated laboratory and radiographic biomarkers (some in association with neutralizing antibodies) suggesting possible immune-mediated effects on STRENSIQ's pharmacologic action resulting in disease progression. The effect of anti-asfotase alfa antibody formation on the long-term efficacy of STRENSIQ is unknown. There are no marketed anti-asfotase alfa antibody tests. If patients experience progression of HPP symptoms or worsening of disease-associated laboratory and imaging biomarkers after a period of initial therapeutic response to STRENSIQ, consider obtaining anti-asfotase alfa antibody testing by contacting STRENSIQ Medical Information at Alexion at 1-888-765-4747 or by email at medinfo@alexion.com. Close clinical follow up is recommended.

ADVERSE REACTIONS

Overall, the most common adverse reactions (≥ 10%) reported were injection site reactions (63%). Other common adverse reactions included lipodystrophy (28%), ectopic calcifications (14%), and hypersensitivity reactions (12%). Possible immune-mediated clinical effects have been identified during post-approval use of STRENSIQ.

DRUG INTERACTIONS

Drug Interference with Laboratory Tests:

- Laboratory tests utilizing alkaline phosphatase (ALP) as a detection reagent could result in erroneous test results for patients receiving treatment due to the presence of asfotase alfa in clinical laboratory samples. Inform laboratory personnel that the patient is being treated with STRENSIQ and discuss use of an alternative testing platform which does not utilize an ALP-conjugated test system.
- Elevated serum ALP measurements detected through clinical laboratory testing are expected in patients receiving STRENSIQ due to circulating concentrations of asfotase alfa and may be unreliable for clinical decision making.

SPECIAL POPULATIONS

- Pregnancy & Lactation: There are no available data on STRENSIQ use in pregnant women, the presence of STRENSIQ in human milk, or the effects on the breastfed infant or on milk production, to inform a drug associated risk.

Please see STRENSIQ (asfotase alfa) full Prescribing Information.

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