Sick sinus syndrome (SSS)

Clinical overview

Definitions
Sick sinus syndrome is a type of heart rhythm disorder. It affects the heart's natural pacemaker (sinus node), which controls the heartbeat. Sick sinus syndrome causes slow heartbeats, pauses (long periods between heartbeats) or irregular heartbeats (arrhythmias).[1]

Types[1]
- Sinoatrial exit block: Signals to the upper heart chambers are slowed or blocked, causing pauses or skipped beats.
- Sinus arrest: Signals from the sinus node pause, causing skipped beats.
- Tachycardia-bradycardia syndrome: The heart rate alternates between unusually slow and fast rhythms, often with a long pause between heartbeats.

Causes/risk factors[1]
- Age-related wear and tear of heart tissues
- Diseases or surgery that cause damage or scarring to the heart
- Certain medications

Signs and symptoms[1]
- A sensation of rapid, fluttering heartbeats (palpitations) or slower pulse (bradycardia)
- Chest pain, shortness of breath or dizziness
- Syncope or near syncope (fainting)
- There may be no symptoms

Diagnostic tools[1]
- Medical history and physical exam
- Electrocardiogram (ECG or EKG)
- Holter monitoring or cardiac event recording

Treatment[1]
When there are no symptoms:
- Monitoring and regular follow-up

For symptomatic sick sinus syndrome:
- Medication management to control rapid or irregular rhythms
- Implantation of a pacemaker to maintain a regular heartbeat
- Surgical procedures, such as radiofrequency ablation to destroy small areas of cardiac tissue and disrupt the electrical impulses that are causing the problem

Best documentation practices for healthcare providers

Subjective
In the subjective section of the office note, document the presence or absence of any current signs or symptoms related to sick sinus syndrome (e.g., fatigue, dizziness, shortness of breath, etc.).

Objective
In the objective section include any current associated physical exam findings (e.g., abnormally slow or fast heart rate, low blood pressure, etc.) and related diagnostic testing results (abnormal heart rhythm on electrocardiogram, Holter monitor results, pacemaker interrogation and reprogramming, etc.).

Assessment
Specificity:

- Document the current status of sick sinus syndrome (stable, worsening, controlled by pacemaker, etc.).
- Document the presence of a cardiac device [e.g., pacemaker, automatic implantable cardioverter/defibrillator (AICD), cardiac resynchronization therapy pacemaker (CRT-P) or cardiac resynchronization therapy defibrillator (bi-ventricular defibrillator) (CRT-D)].
- Include associated information, such as results of cardiac device interrogation or detection of any problems with the cardiac device
- Document any associated bradyarrhythmia or tachyarrhythmias and medications that are being used to control them.

Plan
Document a clear and concise treatment plan for sick sinus syndrome.

- Include planned diagnostic testing.
- Clearly link sick sinus syndrome to any medications being used to control related tachyarrhythmias.
- Indicate to whom/where referrals or consultation requests are made.
- Document when the patient will be seen again.

Coding tips

Coding sick sinus syndrome
Sick sinus syndrome codes to I49.5, which includes tachycardia-bradycardia syndrome. "Sinoatrial node dysfunction" also codes to I49.5.[2]

Sinus bradycardia
"Sinus bradycardia" with no further description is not the same as sick sinus syndrome. Sinus bradycardia simply means a slow heart rate. It is only when sinus bradycardia is described with certain additional terms (e.g., tachycardia-bradycardia syndrome) that it codes to I49.5.[2]

Implantable cardiac devices
When a patient with sick sinus syndrome (SSS) has a cardiac device that is being used as part of the management of SSS, it is appropriate to code both the sick sinus syndrome and the presence of the cardiac device. Although the pacemaker may be controlling the heart rate, it does not cure SSS.[3]

Coding examples

Example 1	
Medical record documentation	Six-month cardiology follow-up. States he is doing well from cardiovascular perspective. Had placement of permanent dual-chamber pacemaker in 2015 in the context of sinus pauses, dizziness and pre-syncope. Known coronary artery disease with prior three-vessel bypass grafting 2013. Review of systems is unremarkable. Denies symptoms of angina or heart failure. Current medications include metoprolol, simvastatin, aspirin, levothyroxine, omeprazole, multivitamin. Physical Exam section states weight is 200 pounds, blood pressure 136/88, heart rate 81. Normal S1 and S2 without extra heart tones, murmurs or rubs. Pacemaker incision is well-healed. Remainder of exam unremarkable. Pacemaker check: Atrial pacing 73% of the time and 1% in the ventricle. Battery voltage stable.
Assessment	1. Coronary artery atherosclerosis with prior coronary artery bypass graft surgery. Continue statin. 2. Sinus node dysfunction with dual chamber permanent pacemaker placement six years ago. Interrogation shows device is functioning appropriately. Battery and lead status are stable. No problems identified.
ICD-10-CM codes	**I25.1Ø** Atherosclerotic heart disease of native coronary artery without angina pectoris **Z95.1** Presence of aortocoronary bypass graft **I49.5** Sick sinus syndrome **Z45.Ø18** Encounter for adjustment and management of other part of cardiac pacemaker
Rationale	Although the pacemaker may be controlling the heart rate, it does not cure SSS; the condition is still present and being managed/monitored; and is a reportable condition.[3] Therefore, both codes are assigned – I49.5 and Z45.Ø18.

Example 2	
Medical record documentation	Presents today for monitoring of his coronary artery disease. Reports no change in exercise tolerance over the last year, except about a month ago he started to tire more easily. Blood pressure is well controlled. Heart rate, however, is slow, measured at 40 beats per minute on two different measurements in the office today. EKG shows heart rate of 41 bpm with left atrial enlargement and nonspecific T wave changes. There has been a marked drop-off in his heart rate over the past year. Denies chest pain, palpitations, peripheral edema or syncopal episodes. Physical exam documentation states BP is 124/60. Pulse 41. Respiration 16. Weight 129. Height 68". BMI 19. Well nourished, well developed but slight in stature. No acute distress noted. Chest with normal symmetry, clear to auscultation. Cardiac: S1 and S2 normal; no murmurs, rubs or gallops. Profound bradycardia noted. Extremities: No cyanosis, clubbing or edema.
Assessment	1. Asymptomatic coronary artery atherosclerosis with history of angioplasty with stent. 2. Profound, persistent bradycardia with complaints of fatigability. Thus, I have instructed him to wean and discontinue Lopressor® – once off Lopressor, he will check his blood pressure on two separate occasions at the local firehouse and call us with those blood pressure readings. If they are above 135/80, we will start him on losartan 50 mg daily. Next visit in three months.

ICD-10-CM codes	**I25.1Ø** Atherosclerotic heart disease of native coronary artery without angina pectoris **Z95.5** Presence of coronary angioplasty implant and graft **RØØ.1** Bradycardia, unspecified
Rationale	Final impression does not document bradycardia with any descriptors that lead to code I49.5.

References

1. Mayo Clinic. Sick sinus syndrome. Mayo Clinic. Published 2019. Accessed November 12, 2024. https://www.mayoclinic.org/diseases-conditions/sick-sinus-syndrome/symptoms-causes/syc-20377554
2. AAPC. ICD-10-CM Complete Code Set 2Ø25. AAPC; 2024.
3. American Hospital Association (AHA). Sick sinus syndrome controlled with implanted cardiac device. ICD-10-CM/PCS Coding Clinic, First Quarter. Published online 2019:33-34.