Sick sinus syndrome (SSS) is an abnormality of the sinus node – an area of specialized cells located in the right upper chamber of the heart – through which electrical signals pass to control the heart rate at a steady pace. When there is an abnormality of the sinus node, the heart rate is no longer controlled at a regular rate and rhythm and, therefore, abnormal heart rhythms (arrhythmias) occur.

**Causes**
- Diseases that cause damage to the heart’s electrical system
- Medications
- Age-related wear and tear to the heart muscle (the most common cause)

**Types**
- Sinoatrial block: Electrical signals pass too slowly through the sinus node, resulting in an abnormally slow heart rate
- Sinus arrest: Sinus node activity pauses
- Bradycardia-tachycardia syndrome: Heart rate alternates between abnormally fast and slow, sometimes with long pauses in between

**Symptoms**
- Pulse that is slower than normal
- Fatigue
- Dizziness or lightheadedness
- Fainting or near fainting
- Shortness of breath
- Chest pain
- Palpitations
- Confusion or memory problems
- Difficulty sleeping

**Diagnostic tools**
- Medical history and physical exam
- Standard electrocardiogram (ECG or EKG)
- Holter monitoring
- Cardiac event recording
- Electrophysiologic studies (EP studies)

**Treatment**
- Monitoring and regular checkups if there are no symptoms

**For symptomatic SSS:**
- Medication management
- Implantation of a pacemaker
- Surgical procedures such as ablation procedures that destroy small areas of cardiac tissue and disrupt the electrical impulses that are causing the problem
Documentation tip for providers

- A good rule of thumb for any medical record is to limit – or avoid altogether – the use of acronyms and abbreviations. The abbreviation “SSS” is commonly used to refer to sick sinus syndrome; however, this abbreviation can have other meanings (e.g., scalded skin syndrome, symptom severity scale, Scandinavian stroke scale). The meaning of an abbreviation can often be determined based on context, but this is not always true. **Best practice** is as follows:
  - The initial notation of an abbreviation should be spelled out in full with the abbreviation in parentheses – e.g., “Sick Sinus Syndrome (SSS).”
  - Subsequent mention of the condition can be made using the abbreviation.
  - The diagnosis should be spelled out in full in the final impression or assessment.

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

- The objective section of the office note should include any current associated physical exam findings (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.).

- **In the final impression or assessment:**
  - Document current sick sinus syndrome by spelling it out in full.
  - Do not describe current sick sinus syndrome as “history of.” In diagnosis coding, the phrase “history of” means the condition is historical and no longer exists as a current problem.
  - Do not use terms that imply uncertainty (“probable,” “apparently,” “likely,” “consistent with,” etc.) to describe a current, confirmed sick sinus syndrome.
  - Do not document suspected and unconfirmed sick sinus syndrome as if the condition were confirmed. Document signs and symptoms in the absence of a confirmed diagnosis.
  - Document the current status of sick sinus syndrome (stable, worsening, etc.).
  - When a pacemaker is present, specify whether the pacemaker is controlling the bradyarrhythmias associated with sick sinus syndrome and/or if any problems with the pacemaker were detected. Also document any additional medication that is being used to control related tachyarrhythmias.

- Document a specific and concise treatment plan for sick sinus syndrome.
  - If medications are used to control bradycardia or tachycardia, clearly link these medications to the respective arrhythmias.
  - Document planned diagnostic testing.
  - If referrals are made or consultations requested, the office note should indicate to whom or where the referral or consultation is made or from whom consultation advice is requested.
  - Document when you plan to see the patient again.

**ICD-10-CM tips and resources for coders**

In ICD-10-CM, sick sinus syndrome classifies to code I49.5, which includes bradycardia-tachycardia syndrome. Code I49.5 falls under category I49, Other cardiac arrhythmias.

The diagnosis “Sinoatrial node dysfunction” also codes to I49.5.
Sick sinus syndrome (SSS), continued

Category I49 excludes (Excludes1) the following conditions:

- Bradycardia NOS (R00.1)
- Neonatal dysrhythmia (P29.1-)
- Sinoatrial bradycardia (R00.1)
- Sinus bradycardia (R00.1)
- Vagal bradycardia (R00.1)

Coding examples

<table>
<thead>
<tr>
<th>Example 1</th>
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<tbody>
<tr>
<td><strong>History of present illness</strong></td>
<td>Six-month cardiology follow-up. Patient states he is doing well from cardiovascular perspective. Underwent placement of a permanent dual-chamber pacemaker in 2010 in the context of sinus pauses, dizziness and pre-syncope. He did have six-second pause on Holter monitor. Known coronary artery disease with previous three-vessel bypass grafting in August 2008.</td>
</tr>
<tr>
<td><strong>Review of systems</strong></td>
<td>Denies any symptoms of angina or heart failure. Otherwise unremarkable.</td>
</tr>
<tr>
<td><strong>Medications</strong></td>
<td>Metoprolol, simvastatin, aspirin, levothyroxine, omeprazole, multivitamin, niacin, fish oil</td>
</tr>
<tr>
<td><strong>Physical exam</strong></td>
<td>Weight 200 pounds, blood pressure 136/88, heart rate 81. Heart tones reveal normal S1 and S2 without extra heart tones, murmurs or rubs. Pacemaker incision is well-healed. Remainder of exam unremarkable.</td>
</tr>
<tr>
<td><strong>Pacemaker interrogation</strong></td>
<td>Paced in the atrium 73 percent of the time and 1 percent in the ventricle. Battery voltage is stable.</td>
</tr>
<tr>
<td><strong>Impression</strong></td>
<td>1. Coronary artery atherosclerosis with prior three-vessel bypass graft surgery. Continue statin and niacin. 2. History of sinus node dysfunction with dual chamber permanent pacemaker placement 5 years ago. Device is functioning appropriately. Battery and lead status are stable. No problems identified.</td>
</tr>
<tr>
<td><strong>ICD-10-CM code(s)</strong></td>
<td>1. I25.1, Z95.1 2. Z45.018</td>
</tr>
<tr>
<td><strong>Comments</strong></td>
<td>The final Impression documents sinus node dysfunction as historical, currently controlled by a normally functioning pacemaker. No problems were detected during pacemaker interrogation. Therefore, code Z45.018 is assigned.</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Example 2</th>
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<tbody>
<tr>
<td><strong>Reason for visit</strong></td>
<td>Follow-up for heart disease</td>
</tr>
<tr>
<td><strong>Review of systems</strong></td>
<td>Denies shortness of breath or dizziness. Has some mild swelling in lower extremities and some difficulty walking – uses a cane for aid with ambulation.</td>
</tr>
<tr>
<td><strong>Past medical history</strong></td>
<td>Coronary artery disease, hyperlipidemia, hypertension, insulin-dependent diabetes mellitus, congestive heart failure, sick sinus syndrome, stroke/transient ischemic attack, degenerative joint disease, depression.</td>
</tr>
<tr>
<td><strong>Medications</strong></td>
<td>Neurontin, Lipitor, furosemide, Humulin insulin, aspirin, Plavix, potassium, atenolol, Zoloft, OTC Tylenol</td>
</tr>
<tr>
<td><strong>Physical exam</strong></td>
<td>Blood pressure 118/88. No jugular venous distention; normal respiratory effort; diminished breath sounds bilaterally. Heart regular rate and rhythm, point of maximal impulse not displaced, no thrills, lifts or palpable S3 or S4, 1+ pitting edema of the ankles, normal pedal pulses with good capillary refill. Recent echocardiogram and carotid Dopplers look good.</td>
</tr>
<tr>
<td><strong>Assessment</strong></td>
<td>1) Hypertension controlled 2) Insulin-dependent diabetes mellitus 3) Congestive heart failure and sick sinus syndrome – stable at present, will re-evaluate at next visit</td>
</tr>
<tr>
<td><strong>Plan</strong></td>
<td>Take an extra Lasix daily if needed for swelling in lower extremities. Return for re-evaluation in 4 months.</td>
</tr>
<tr>
<td><strong>ICD-10-CM code(s)</strong></td>
<td>1) I10 2) E11.9 3) I50.9, I49.5</td>
</tr>
<tr>
<td><strong>Comments</strong></td>
<td>Sick sinus syndrome is documented in the final assessment as a current problem that is stable at present. The treatment plan includes re-evaluation at the next visit.</td>
</tr>
</tbody>
</table>
### Example 3

#### History of present illness
Patient presents to the office today for monitoring of his coronary artery disease. He is aerobically active. He normally golfs four days a week, walking the entire nine holes with no restrictions at all. He had no change in his exercise tolerance over the last year, except he reports about a month ago he started to notice that he tires more easily. He is followed through the VA Clinic for his lipids. His blood pressure is well controlled. His 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

#### Impression
1. Coronary artery atherosclerosis with history of angioplasty with stent. Currently asymptomatic.
2. Hyperlipidemia. He is now on Crestor and due for re-assessment at the VA Clinic next month.
3. History of anterior septal myocardial infarction 3 years ago.
4. Profound, persistent bradycardia. He is profoundly bradycardic and is complaining of fatigability. Thus, I have instructed him to wean and discontinue Lopressor. Once he is off of it, he is to have his blood pressure checked on two separate occasions at the local firehouse – he will call us with these blood pressure readings. If they are above 135/80, we will start him on Losartan 50 mg daily. I will see him back in 3 months.

#### ICD-10-CM code(s)
1. I25.1Ø, Z95.5
2. E78.5
3. I25.2
4. R00.1

#### Comments
The final impression does not document bradycardia with any descriptors that lead to code I49.5.

**References:** American Hospital Association Coding Clinic; ICD-10-CM Official Guidelines for Coding and Reporting; Mayo Clinic; MedlinePlus