

Clinical overview

Background

The sinus node (also known as the sinoatrial node or SA node) is an area of specialized cells located in the right upper chamber of the heart (the right atrium).

- The cells of the sinus node generate regular electric impulses at a steady rate that spread through the upper chambers of the heart (the atria) and the lower pumping chambers (the ventricles) and cause the muscular contractions responsible for the pumping function of the heart.
- The electrical signals of the sinus node control the heart rate at a steady rate; thus, the sinus node is called the “natural pacemaker of the heart.”
- Under normal conditions, the sinus node produces 60 to 100 impulses a minute, which is the normal resting heart rate.
- The sinus node can increase the heart rate during periods of stress, such as exercise or high fever.
- During quiet times, such as during sleep, the sinus node may slow down to below 60 impulses, or beats, per minute.

Definition

Sick sinus syndrome (SSS) is an abnormality or malfunction of the sinus node. The result is that the heart rate is no longer controlled at a regular rate and rhythm, and abnormal heart rhythms (arrhythmias) occur.

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.
- Tachycardia-bradycardia syndrome: Heart rate alternates between abnormally fast and slow, sometimes with long pauses in between.

Causes

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

Signs and symptoms

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

There may be no symptoms.

Diagnostic tools

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

Treatment

When there are no symptoms:

- Monitoring and regular follow-up

For symptomatic sick sinus syndrome:

- 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

Best documentation practices for physicians

Abbreviations

A good rule of thumb for a medical record is to limit – or avoid altogether – the use of abbreviations. While “SSS” is a commonly accepted medical abbreviation for sick sinus syndrome, best documentation practice is as follows:

- The initial notation of an abbreviation or acronym should be spelled out in full with the abbreviation/ acronym in parentheses — e.g., “sick sinus syndrome (SSS).”
- Subsequent mention of the condition can be made using the abbreviation or acronym.

Subjective

The subjective section of the office note should 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

The objective section 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.).

Final assessment/impression

- 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 current, confirmed sick sinus syndrome.
- Do not document suspected and unconfirmed sick sinus syndrome as if the condition were confirmed. Instead, document signs and symptoms in the absence of a confirmed diagnosis.
- Document the current status of sick sinus syndrome (stable, worsening, etc.).

Electronic medical record (EMR) reminder

- Some electronic medical records insert ICD-10-CM code descriptions into the medical record to represent the final diagnosis. For example: “I49.9, Cardiac arrhythmia, unspecified.”
- With these types of vague descriptions, the diagnosis will not be complete unless the physician clearly documents the specific cardiac arrhythmia.

Note: ICD-10-CM is a statistical classification; it is not a substitute for a provider’s final diagnostic statement. It is the healthcare provider’s responsibility to provide legible, clear, concise and specific documentation of a final diagnosis, which is then translated to a code for reporting purposes. It is not appropriate for healthcare providers to simply list a code number or select a code number from a list of codes in place of a written final diagnosis.

Treatment plan

Document a specific and concise treatment plan for sick sinus syndrome.

- 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 patient will be seen again.

Pacemaker documentation

Historically, the diagnosis coding authority – the American Hospital Association (AHA) Coding Clinic – has advised that when sick sinus syndrome is being controlled by a pacemaker and no problems are detected during routine pacemaker interrogation, no code is assigned for sick sinus syndrome. Depending on the specific circumstances documented in the medical record, it may be appropriate to assign one of these codes:

- Z45.010 Encounter for checking and testing of cardiac pacemaker pulse generator (battery)
- Z45.018 Encounter for adjustment and management of other part of cardiac pacemaker

Thus, when a pacemaker is present, it is imperative that the medical record clearly document whether:

Best documentation practices for physicians

- a) The pacemaker is controlling the bradyarrhythmias associated with sick sinus syndrome;
- b) Any problem with the pacemaker was detected;
- c) Any medication is being used in addition to the pacemaker to control tachyarrhythmias associated with sick sinus syndrome (with clear linkage between the medication and the diagnosis/condition for which the medication is being used).

ICD-10-CM tips and resources for coders

Coding basics

For accurate and specific code assignment, the coder must:

- Review the entire medical record to verify sick sinus syndrome is a current condition and not historical.
- Note the exact description of sick sinus syndrome or related condition documented in the medical record; then, in accordance with ICD-10-CM official coding conventions and guidelines:
- Search the alphabetic index for that specific description.
- Verify the code in the tabular list, carefully following all instructional notes.

Coding sick sinus syndrome

Sick sinus syndrome classifies to code I49.5, which includes tachycardia-bradycardia syndrome. Code I49.5 falls under category I49, Other cardiac arrhythmias.

The diagnosis “sinoatrial node dysfunction” also codes to I49.5.

Category I49

Excludes1 the following:

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

Excludes2 the following:

- Bradycardia NOS (R00.1)

An **Excludes1** note indicates the code excluded should not be used at the same time as the code above the **Excludes1** note.

An **Excludes2** note indicates that the condition excluded is not part of the condition represented by the code, but a patient may have both conditions at the same time.

A diagnosis described as “sinus bradycardia” is not the same condition as sick sinus syndrome. Sinus bradycardia with no further description or specification simply means a slow heart rate. For sinus bradycardia to be coded as sick sinus syndrome, it must be described with terms that classify the condition to code I49.5 (for example, tachycardia-bradycardia syndrome).

Sick sinus syndrome with pacemaker

Pacemaker interrogation is a routine computer evaluation of pacemaker function. Pacemaker interrogation is routinely performed to verify the device is programmed accurately and to assess battery and lead function. Pacemaker settings may be reprogrammed if indicated.

In the past, AHA Coding Clinic (Sick sinus syndrome with pacemaker interrogation, Third Quarter 2010, Pages 9-10) has advised that when sick sinus syndrome is being controlled by the pacemaker and no problems are detected during routine pacemaker interrogation, no code is assigned for sick sinus syndrome. Depending on the specific circumstances documented in the medical record, it may be appropriate to assign one of these codes:

- Z45.010 Encounter for checking and testing of cardiac pacemaker pulse generator (battery)
- Z45.018 Encounter for adjustment and management of other part of cardiac pacemaker

Sick sinus syndrome can be coded as a current condition only when documented as a continuing and ongoing problem. When a pacemaker is present, sick sinus syndrome is not coded unless the medical record documentation shows:

- Any associated bradyarrhythmia (slow heart rate) is not controlled by the pacemaker; and/or
- Medications are being used to control any tachyarrhythmia (fast heart rate) associated with sick sinus syndrome (with documented linkage between the medication and the sick sinus syndrome diagnosis for which the medication is being used).

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