

Emergency Department Evaluation and Management of Bradyarrhythmia



Vishal Demla, MD*, Anita Rohra, MD

KEYWORDS

• Bradycardia • Symptomatic bradycardia • ECG • Block • Aberrancy • Junctional

HOSPITAL MEDICINE CLINICS CHECKLIST

1. Bradycardia varies by age.
2. Bradycardia can be normal in someone who is at rest or asleep.
3. First perform ABCs (airway, breathing, circulation) and check for a pulse.
4. Always consider the Hs and Ts, even if the patient is not in cardiac arrest.
5. Intervention is not necessary if the patient is not symptomatic.
6. Evaluate for regular versus irregular rhythm and wide versus narrow QRS complex.
7. Repeat electrocardiogram if the patient has a change in clinical status.
8. Inferior ST segment elevation myocardial infarction (STEMI) may cause a vagally stimulated bradycardia that is likely to respond to atropine, as opposed to anterior STEMI.
9. Immediately pace a patient with symptomatic Mobitz II or complete heart block.

DEFINITIONS

How is bradycardia defined?

Normal heart rates vary by age, as shown in [Table 1](#).¹ Bradycardia is defined as a heart rate that is approximately 2 standard deviations less than the mean of the population. Classically, in adults, bradycardia is defined as a heart rate of less than 60 beats per minute. However, a heart rate greater than 60 beats per minute may also be inadequate for other individuals.² The heart rate is typically less than 50 beats per minute in a bradyarrhythmia.³

Disclosures: The authors have no conflicts of interest or funding sources to disclose.
Section of Emergency Medicine, Ben Taub Hospital, Baylor College of Medicine, 1504 Taub Loop, Houston, TX 77030, USA

* Corresponding author.

E-mail address: vishal.demla@bcm.edu

Hosp Med Clin 4 (2015) 526–539
<http://dx.doi.org/10.1016/j.ehmc.2015.06.009>

2211-5943/15/\$ – see front matter © 2015 Elsevier Inc. All rights reserved.

| Age | Heart Rate (Beats per Minute) |
|---------|-------------------------------|
| 0–1 mo | 90–180 |
| 1–3 mo | 110–185 |
| 3–12 mo | 90–170 |
| 1–2 y | 80–160 |
| 2–10 y | 70–140 |
| 10–14 y | 60–130 |
| >14 y | 60–120 |

Data from Fleming S, Thompson M, Stevens R, et al. Normal ranges of heart rate and respiratory rate in children from birth to 18 years of age: a systematic review of observational studies. *Lancet* 2011;377(9770):1011–8.

Are there exceptions to this rule?

There are exceptions to every rule. Bradycardia can be normal in an individual who is at rest or asleep. It can also be normal in a well-conditioned individual such as an athlete.

How does bradycardia look on an electrocardiogram (ECG)?

Bradycardia is defined as a heart rate of 60 beats per minute or less. Before the various types of bradycardia seen on ECG can be interpreted, an understanding of a normal ECG is needed. The normal ECG should have a P wave before every QRS complex. The interval between the P wave and the QRS complex, often called the PR interval, should be between 120 and 200 milliseconds. The QRS complex should have a maximum width of 100 milliseconds. The P wave should be upright. The rhythm should be regular (ie, regularly spaced intervals between R waves) (**Fig. 1**).

What causes bradycardia?

Bradycardia can be seen in healthy individuals and does not require evaluation or treatment in asymptomatic individuals, provided the rhythm emanates from the sinus node. Both young and elderly patients are capable of having asymptomatic



Fig. 1. Single cardiac cycle.

Download English Version:

<https://daneshyari.com/en/article/3474065>

Download Persian Version:

<https://daneshyari.com/article/3474065>

[Daneshyari.com](https://daneshyari.com)