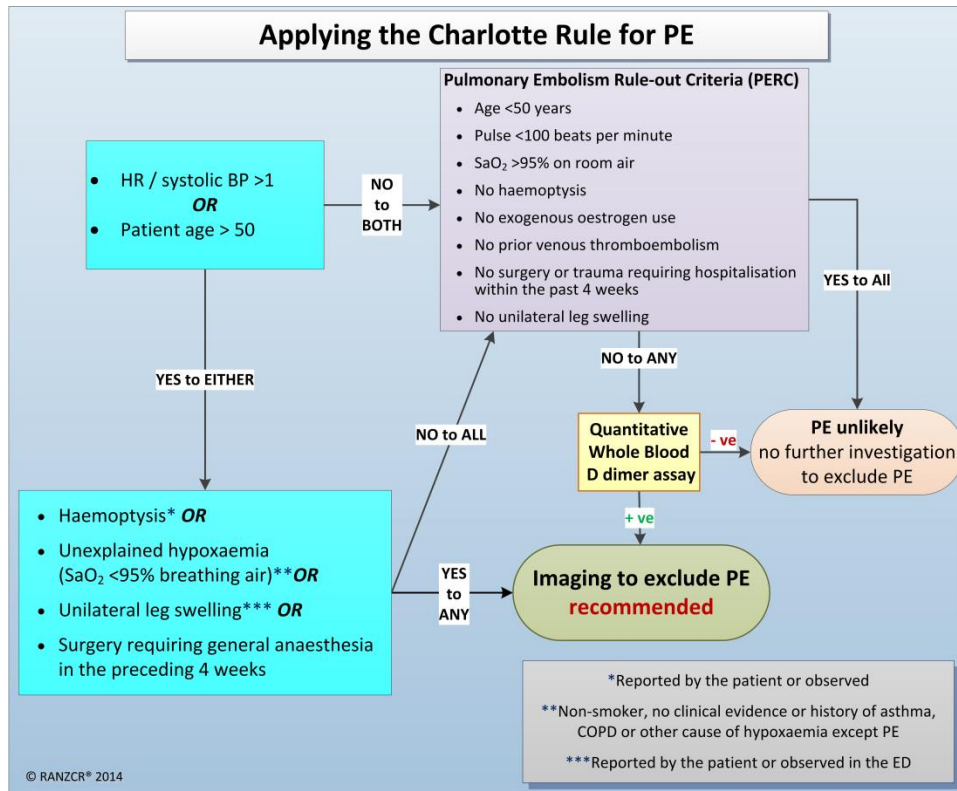


The Charlotte Rule

Algorithm:



Inclusion Criteria:

- Patients (age limitation not specified) admitted to the emergency department, in whom pulmonary embolism (PE) is suspected.

Exclusions Criteria:

- No clear exclusion criteria described.

Summary Statement:

This decision tool is for patients presenting to the emergency department in whom a board-certified emergency physician has enough suspicion for PE, to order a pulmonary vascular imaging study (either a contrast-enhanced CT scan of the chest or a ventilation-perfusion lung scan [V/Q scan]).

The rule has been extensively validated and safely rules out PE in patients classified as “Safe” or “Low probability” in the presence of a negative result using a sensitive whole blood D dimer assay (sensitivity of at least 90%). Its disadvantage in practice is that use of the Charlotte Rule may result in more patients over age 50 being triaged to imaging rather than D dimer due to the way the rule works than would be the case if the Wells score were used. This may lead to more imaging in this particular age group than if the Simplified Wells Score was used but the Charlotte Rule has the advantage of potentially more reproducible rule criteria and does not require the user to make a subjective judgement about whether PE is more likely than another diagnosis.

Patients who are classified as “unlikely” for PE with the Charlotte Rule, who also have a negative result on a sensitive whole blood D dimer assay, have a probability of PE of 2% or less and thus require no further investigation, such as imaging, to exclude PE.

In addition, the PERC rule may be used with patients identified as “unlikely” to determine those who should have a D dimer test and those who require no further testing for PE.

Reference:

Kline JA, Nelson RD, Jackson RE and Courtney DM. Criteria for the safe use of D-dimer testing in emergency department patients with suspected pulmonary embolism: a multicenter US study. *Ann Emerg Med.* 2002; 39: 144-52.