Rigid sternal fixation can be useful to reduce mediastinal wound complications.

<table>
<thead>
<tr>
<th>Class (Strength) of Recommendation</th>
<th>Class IIa (Moderate)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level (Quality) of Evidence</td>
<td>Level B-R (Randomized)</td>
</tr>
</tbody>
</table>

**Main Points**

- Most surgical disciplines managing fractures/osteotomies adhere to the principles of approximation, compression, and stabilization of the bone using rigid fixation.

- The majority of cardiac surgeons continue to use wire cerclage for sternotomy closure because of the perceived low rate of sternal wound complications and the low cost of wires.

- Concern of inadequate bone healing lead to most cardiac surgery patients recovering under “sternal precautions”, which limits their ability to mobilize.

- In a randomized multicenter trial, sternotomy closure with rigid plate fixation vs. wire cerclage resulted in significantly better sternal healing, fewer sternal complications, improved patient reported outcomes, and no additional cost at 6 months after surgery.

- Rigid sternal fixation should be considered in high-risk individuals such as those with a high BMI, previous chest wall radiation, severe COPD, or steroid use.

**Key References**


