PURPOSE OF CONSENSUS ON SCIENCE SUMMARY STATEMENT

Describe in a concise statement (1-3 sentences) the evidence level and quality, the population studied and the result with/from an intervention, assessment or test. Include relevant characteristics of the patient and caregiver population and the setting and timing.

PLEASE BE SURE TO INCLUDE THE REFERENCES FOR EACH LOE STATEMENT USING THE ‘AUTHOR, YEAR, FIRST PAGE NUMBER’ FORMAT

STATEMENT TEMPLATE (Components can be rearranged. For example, EBM structure uses PICO—patient, intervention, comparative group and outcome):

<table>
<thead>
<tr>
<th>STATEMENT COMPONENTS (1-3 sentences)</th>
<th>EXAMPLES</th>
</tr>
</thead>
</table>
| Describe EVIDENCE (number, quality, LOE)—include highest level of evidence and other levels if important with references | - 3 meta-analyses (LOE 1 with 3 citations) plus 2 large prospective RCTs (LOE 2 with 2 citations)
- 4 large prospective, randomized clinical trials totaling 17,000 patients (LOE 1 with 4 citations)
- 1 good RCT (LOE 2 with 1 citation) plus two case series with historic control (LOE 5 with 2 citations) and multiple animal studies (LOE 6 with citations) |
| Document RESULT (include magnitude and direction of outcome of interest, with 95% CI, if possible) | - improvement in survival to hospital discharge, survival to hospital admission, ROSC
- reduced complications—be specific (eg, decreased ventricular arrhythmias)
- worsened outcome—be specific (eg, increased myocardial dysfunction assessed with echocardiography)
- high sensitivity/specificity/predictive value (if evaluating an assessment tool or diagnostic test) |
| List INTERVENTION, assessment or test | - 90 seconds of chest compressions prior to shock delivery with AED
- use of 12-24 hours of therapeutic hypothermia (external plus internal cooling to reduce core temperature to 32-34° C)
- use of pulse check to determine if cardiac arrest is present
- serial CPK and troponin T levels obtained on admission and after four hours in patients with ACS
- glucose concentration > 250 mg% present on admission |
Describe POPULATION studied (age, condition or diagnosis)
- adults with out-of-hospital VF cardiac arrest
- children from birth to 18 years of age
- piglets (weight if relevant) with induced VF cardiac arrest (or asphyxial arrest)

List any specific descriptors or qualifiers of study population, (particularly age, co-morbidity), rescuers (eg, lay rescuers, prehospital EMS or in-hospital providers), setting or timing
- patients with witnessed VF cardiac arrest with ≥ 5 min EMS response interval
- patients with acute coronary syndromes and symptoms of severe CHF on presentation
- patients who remain in coma after resuscitation from VF cardiac arrest
- patients with acute ischemic stroke treated within 3 hours of symptom onset
Note: specify rescuer training level and setting (eg in- vs out-of-hospital) if relevant

Include number needed to treat/harm and 95% confidence interval, if possible
- The number needed to treat (NNT) to prevent one death on hospital discharge ranged from 5 (95% CI: 2.3-81) to 7 (95% CI: 4-40).

THREE EXAMPLES OF SUMMARY STATEMENTS

STATEMENT REGARDING THERAPEUTIC INTERVENTION: Evidence from two large clinical trials (LOE 1 Smith 2007, 386; Johns 2008, 1456) showed a significant increase in survival to hospital discharge following the use of 12-24 hours of therapeutic hypothermia (internal and external cooling to maintain core temperature of 32-34° C) for victims of out-of-hospital sudden VF cardiac arrest who remain comatose after resuscitation. This beneficial outcome is supported by numerous animal studies (LOE 6 Berg, 2004, 152; Kern 2005, 1696; Ewy 2004, 856). Number needed to treat with therapeutic hypothermia to prevent one death before hospital discharge ranged from 5 (95% CI: 2.3-81) to 7 (95% CI: 4-40). [This example describes the evidence, result, intervention and population. It includes the number needed to treat and confidence interval.]

STATEMENT REGARDING PROGNOSIS STUDY: Evidence from 6 high-quality LOE P3 (Berg, 2004, 152; Kern 2005, 1696; Ewy 2004, 856; Sanders 2002, 934; Jones 2003, 222; Hightower 2006, 661)and from 4 high quality LOE P4 (Smith 2007, 386; Johns 2008, 1456; Jones 2003, 222; Hightower 2006, 661)studies show a strong association between a high admission serum glucose concentration and mortality in adults who are admitted to the hospital following resuscitation from out-of-hospital cardiac arrest. The positive predictive value for death with a glucose concentration > 250 mg% is
88% (95% CI: 77-95%). [This example describes the evidence, result (association with mortality) of a test (glucose concentration) in a population. It notes the positive predictive value and confidence interval.]

**STATEMENT REGARDING DIAGNOSTIC TESTS:** Data from 8 studies (LOE D3 [4 references cited here] and LOE D4 [4 refs cited here]) of adults presenting to the emergency department with chest pain document poor (< 50%) sensitivity of the initial CPK and troponin T levels for detection of acute myocardial infarction. When repeat measurements are obtained after four hours, the sensitivity and specificity of these levels increase to 92 and 90% respectively. [This statement describes the evidence, population, outcome (sensitivity) of an intervention (test) and lists improved outcome with repeat measurements.]

**TREATMENT RECOMMENDATIONS**

<table>
<thead>
<tr>
<th>Benefit &gt;&gt;&gt;Risk</th>
<th>Benefit &gt;&gt;Risk</th>
<th>Benefit &gt;Risk</th>
<th>Risk &gt;Benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Procedure/Treatment should be performed/administered.</td>
<td>IT IS REASONABLE to perform procedure or administer treatment.</td>
<td>Procedure/Treatment MAY BE CONSIDERED.</td>
<td>Procedure/treatment should NOT be performed/administered SINCE IT IS NOT HELPFUL AND MAY BE HARMFUL.</td>
</tr>
</tbody>
</table>

Suggested phrases you may want to use:

- ...should...
- ...is recommended...
- ...is indicated...
- ...is useful/effective/beneficial...

- ...is reasonable...
- ...can be useful/effective/beneficial...
- ...is probably indicated...

- ...may/might be considered useful...
- ...may/might be reasonable...
- ...usefulness/effectiveness is not well established...

- ...is not recommended...
- ...is not indicated...
- ...should not...
- ...is not useful/effective/beneficial...
- ...may be harmful...