

## Appendix B

### Basic Life Support – 2026 Evidence Updates

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## 2026 Evidence Update

### BLS 2702-2703 – Immediate Resuscitation in Water or on Boat in Drowning

**Worksheet author(s):** Janet Bray

**Task Force:** BLS

**Date Submitted to SAC rep for peer review and approval:**

**SAC rep:** Siobhan Masterson

**PICOST / Research Question:**

PICOST	Description
<b>Population</b>	In adults and children who are submerged in water
<b>Intervention</b>	Immediate resuscitation in-water <sup>a</sup>
<b>Comparison</b>	Delaying resuscitation until on land <sup>b</sup>
<b>Outcomes</b>	Survival with favourable neurological outcome to discharge / 30 days or later Survival to discharge / 30 days or later Return of spontaneous circulation (ROSC)
<b>Study Design</b>	Randomized controlled trials (RCTs) and non-randomized studies (non-randomized controlled trials, interrupted time series, controlled before-and-after studies, cohort studies) are eligible for inclusion. Manikin studies will only be included if no human studies are available.
<b>Timeframe</b>	From April 2024 onward. All languages were included as long as there was an English abstract; unpublished studies (e.g., conference abstracts, trial protocols) were excluded

<sup>a</sup> Immediate resuscitation in-water resuscitation is defined as delivering ventilations only to a non-breathing casualty while still in the water.

<sup>b</sup> Land is defined as a firm, stable surface out of the water (e.g., wharf, pontoon, beach) with sufficient space for rescuers to safely perform CPR.

**Year of last full review:** 2023

#### **Current ILCOR Consensus on Science and Treatment Recommendation for this PICOST:**

We suggest in-water resuscitation (ventilations only) may be considered in situations where a trained rescuer determines that the rescuer safety, equipment available and distance to shore warrant its use (Weak recommendation, very low certainty evidence).

We suggest on-boat resuscitation (ventilations only or standard CPR) may be considered in situations where there is sufficient space for rescuers to safely perform resuscitation. (Good practice statement)

At any point during the rescue attempt, if the rescuer/rescuers feels that the application of immediate resuscitation is too difficult or affecting personal safety, then the rescuer(s) may opt to forgo its application. (Good practice statement)

#### **Current Search Strategy (for an existing PICOST) included in the attached approved PICOST**

Available in the systematic review.<sup>1</sup>

**Database searched:** Medline

**Time Frame:** April 2024-December 2025

**Date Search Completed:** 5<sup>th</sup> December 2025

**Search Results:** Articles identified by the search: 669; relevant articles: 1 scientific statement<sup>2</sup> and 1 manikin RCT.<sup>3</sup>

**Summary of Evidence Update:**

## Relevant Guidelines or Systematic Reviews

Organization (if relevant); Author; Year Published	Guideline or systematic review	Topic addressed or PICO(S)T	Number of articles identified	Key findings	Treatment recommendations
Dezfulia (2024)	Scientific statement - pediatrics	In-water resuscitation	1	Same as ILCOR CoSTR	Same as ILCOR TR

**RCT: No new studies**

**Observational: no new studies**

### Reviewer Comments:

There is no new data to warrant an update to the existing systematic review at this time. One simulation RCT by Barcala-Furelos (2025) supports current treatment recommendation.

### Reference list:

1. Bierens J, Bray J, Abelairas-Gomez C, et al. A systematic review of interventions for resuscitation following drowning. *Resuscitation Plus*. 2023;14:100406.
2. Dezfulian C, McCallin TE, Bierens J, et al. 2024 American Heart Association and American Academy of Pediatrics Focused Update on Special Circumstances: Resuscitation Following Drowning: An Update to the American Heart Association Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care. *Circulation*. 2024;150:e501-e516.
3. Barcala-Furelos R, de Oliveira J, Duro-Pichel P, et al. In-water resuscitation during a surf rescue: Time lost or breaths gained? A pilot study. *Am J Emerg Med*. 2024;79:48-51.

## 2026 Evidence Update

### BLS 2704 – Circulation-Airway-Breathing (CAB) vs Airway-Breathing-Circulation (ABC) Approach to CPR in Drowning

**Worksheet author(s):** Janet Bray

**Task Force:** BLS

**Date Submitted to SAC rep for peer review and approval:**

**SAC rep:** Siobhan Masterson

#### PICOST / Research Question:

PICOST	Description
<b>Population</b>	In adults and children who are submerged in water
<b>Intervention</b>	Compression-first strategy (CAB)
<b>Comparison</b>	Resuscitation that starts with ventilation (ABC)
<b>Outcomes</b>	Survival with favourable neurological outcome to discharge / 30 days or later Survival to discharge / 30 days or later Return of spontaneous circulation (ROSC)
<b>Study Design</b>	Randomized controlled trials (RCTs) and non-randomized studies (non-randomized controlled trials, interrupted time series, controlled before-and-after studies, cohort studies) are eligible for inclusion. Manikin studies will only be included if no human studies are available.
<b>Timeframe</b>	From April 2024 to December 2025. All languages were included as long as there was an English abstract; unpublished studies (e.g., conference abstracts, trial protocols) were excluded

**Year of last full review:** 2023

#### Current ILCOR Consensus on Science and Treatment Recommendation for this PICOST:

We recommend a compression-first strategy (CAB) for laypeople providing resuscitation for adults in cardiac arrest caused by drowning (good practice statement).

Health care professionals and those trained and with a duty to respond to drowning (eg, lifeguards) should consider providing rescue breaths/ventilation first (ABC) before chest compressions (good practice statement).

#### Current Search Strategy (for an existing PICOST) included in the attached approved PICOST

Available in the systematic review.<sup>1</sup>

**Database searched:** Medline

**Time Frame:** April 2024-December 2025

**Date Search Completed:** 5<sup>th</sup> December 2025

**Search Results:** Articles identified by the search: 669; relevant articles: 1 scientific statement.<sup>2</sup>

#### Summary of Evidence Update:

#### Relevant Guidelines or Systematic Reviews

Organization (if relevant); Author;	Guideline or systematic review	Topic addressed or PICO(S)T	Number of articles identified	Key findings	Treatment recommendations
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Year Published					
Dezfulia (2024)	Scientific statement - pediatrics	Compression-only CPR vs conventional CPR	7 studies	Similar to ILCOR CoSTR	Similar to ILCOR TR

**RCT:** No Studies

**Observational studies:** No studies

**Reviewer Comments:**

No new data.

**Reference list:**

1. Bierens J, Bray J, Abelairas-Gomez C, et al. A systematic review of interventions for resuscitation following drowning. *Resuscitation Plus*. 2023;14:100406.
2. Dezfulian C, McCallin TE, Bierens J, et al. 2024 American Heart Association and American Academy of Pediatrics Focused Update on Special Circumstances: Resuscitation Following Drowning: An Update to the American Heart Association Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care. *Circulation*. 2024;150:e501-e516.

## 2026 Evidence Update

### BLS 2705 – Chest Compression-only CPR in drowning

**Worksheet author(s):** Janet Bray

**Task Force:** BLS

**Date Submitted to SAC rep for peer review and approval:**

**SAC rep:** Siobhan Masterson

#### PICOST / Research Question:

PICOST	Description
<b>Population</b>	In adults and children who are submerged in water
<b>Intervention</b>	Chest compression-only CPR
<b>Comparison</b>	Conventional CPR (compressions and ventilations)
<b>Outcomes</b>	Survival with favourable neurological outcome to discharge / 30 days or later Survival to discharge / 30 days or later Return of spontaneous circulation (ROSC)
<b>Study Design</b>	Randomized controlled trials (RCTs) and non-randomized studies (non-randomized controlled trials, interrupted time series, controlled before-and-after studies, cohort studies) are eligible for inclusion. Manikin studies will only be included if no human studies are available.
<b>Timeframe</b>	From April 2024 to December 2025. All languages were included as long as there was an English abstract; unpublished studies (e.g., conference abstracts, trial protocols) were excluded

**Year of last full review:** 2023

#### **Current ILCOR Consensus on Science and Treatment Recommendation for this PICOST:**

For lay responders, the treatment recommendations for CPR in drowned OHCA patients who have been removed from the water remain consistent with CPR for all patients in cardiac arrest (good practice statement).

Adults: We recommend that bystanders perform chest compressions for all patients in cardiac arrest. We suggest that bystanders who are trained, able, and willing to give rescue breaths and chest compressions do so for adults in cardiac arrest.

Children: We suggest that bystanders provide CPR with ventilation for infants and children younger than 18 years with OHCA.

We recommend that if bystanders cannot provide rescue breaths as part of CPR for infants and children younger than 18 years with OHCA, they should at least provide chest compressions.

For health care professionals and those with a duty to respond to drowning (eg, lifeguards), we recommend providing ventilation in addition to chest compressions if they have been trained and are able and willing to do so (good practice statement).

#### **Current Search Strategy (for an existing PICOST) included in the attached approved PICOST**

Available in the systematic review.<sup>1</sup>

**Database searched:** Medline

**Time Frame:** April 2024-December 2025

**Date Search Completed:** 5<sup>th</sup> December 2025

**Search Results:** Articles identified by the search: 669; relevant articles: 1 scientific statement<sup>2</sup> and 1 observational study.<sup>3</sup>

**Summary of Evidence Update:**

**Relevant Guidelines or Systematic Reviews**

Organization (if relevant); Author; Year Published	Guideline or systematic review	Topic addressed or PICO(S)T	Number of articles identified	Key findings	Treatment recommendations
Dezfulia (2024)	Scientific statement - pediatrics	Compression-only CPR vs conventional CPR	7 studies	Similar to ILCOR CoSTR	Similar to ILCOR TR

**RCT:** No new studies.

**Observational:** 1 new study<sup>3</sup>:

Study Acronym; Author; Year Published	Aim of Study; Study Type; Study Size (N)	Patient Population	Study Intervention (# patients) / Study Comparator (# patients)	Endpoint Results (Absolute Event Rates, P value; OR or RR; & 95% CI)	Relevant 2° Endpoint (if any); Study Limitations; Adverse Events
Kaneto (2025) <sup>3</sup>	<b>Study Aim:</b> conventional CPR vs. CCO CPR and whether it differs by age and aetiology <b>Study Type:</b> Observational (retrospective)	<b>Inclusion Criteria:</b> drowning OHCA 2016-2019	<b>Intervention:</b> conventional CPR <b>Comparison:</b> CCO CPR	<b>1° endpoint:</b> Matched analysis: improved neurological outcomes with conventional CPR in ages <35 years and accidental drowning OHCA. No significant difference age >=35 years.	<b>Study Limitations:</b> Retrospective, confounding.

**Reviewer Comments:**

The new data does not warrant an update to the existing systematic review at this time.

**Reference list:**

1. Bierens J, Bray J, Abelairas-Gomez C, et al. A systematic review of interventions for resuscitation following drowning. *Resuscitation Plus*. 2023;14:100406.
2. Dezfulian C, McCallin TE, Bierens J, et al. 2024 American Heart Association and American Academy of Pediatrics Focused Update on Special Circumstances: Resuscitation Following Drowning: An Update to the American Heart Association Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care. *Circulation*. 2024;150:e501-e516.
3. Kaneto Y, Owada H, Kamikura T, et al. Advantages of bystander-performed conventional cardiopulmonary resuscitation in out-of-hospital cardiac arrest presumably caused by drowning in Japan: a propensity score-matching analysis using an extended nationwide database. *BMJ Open*. 2024;14:e080579.

## 2026 Evidence Update

### BLS 2706 – Ventilation Equipment in Drowning

**Worksheet author(s):** Janet Bray

**Task Force:** BLS

**Date Submitted to SAC rep for peer review and approval:**

**SAC rep:** Siobhan Masterson

**PICOST / Research Question:**

PICOST	Description
<b>Population</b>	In adults and children who are submerged in water
<b>Intervention</b>	Ventilation with equipment before hospital arrival
<b>Comparison</b>	No ventilation with equipment before hospital arrival
<b>Outcomes</b>	Survival with favourable neurological outcome to discharge / 30 days or later Survival to discharge / 30 days or later Return of spontaneous circulation (ROSC)
<b>Study Design</b>	Randomized controlled trials (RCTs) and non-randomized studies (non-randomized controlled trials, interrupted time series, controlled before-and-after studies, cohort studies) are eligible for inclusion. Manikin studies will only be included if no human studies are available.
<b>Timeframe</b>	From April 2024 onward. All languages were included as long as there was an English abstract; unpublished studies (e.g., conference abstracts, trial protocols) were excluded

**Year of last full review:** 2023

#### **Current ILCOR Consensus on Science and Treatment Recommendation for this PICOST:**

We recommend using mouth-to-mouth, mouth-to-nose, or pocket-mask ventilation by BLS providers and laypeople

for adults and children in cardiac arrest caused by drowning (good practice statement).

We suggest that bag-mask ventilation can be used by lifeguards or other BLS providers with a duty to respond, on the condition that it is part of a competency-based training program with regular retraining and maintenance of equipment (good practice statement).

We recommend that health care professionals follow the ALS treatment recommendations for airway management

for adults and children in cardiac arrest caused by drowning.

#### **Current Search Strategy (for an existing PICOST) included in the attached approved PICOST**

Available in the systematic review.<sup>1</sup>

**Database searched:** Medline

**Time Frame:** April 2024-December 2025

**Date Search Completed:** 5<sup>th</sup> December 2025

**Search Results:** Articles identified by the search: 669; relevant articles: 1 scientific statement<sup>2</sup> and 1 observational study.<sup>3</sup>

**Summary of Evidence Update:**

**Relevant Guidelines or Systematic Reviews**

Organization (if relevant); Author; Year Published	Guideline or systematic review	Topic addressed or PICO(S)T	Number of articles identified	Key findings	Treatment recommendations
Dezfulia (2024)	Scientific statement - pediatrics	AED use	3	Same ILCOR CoSTR	It is reasonable for trained rescuers to provide rescue breaths by the first means available (mouth-to-mouth, pocket mask, or bag-mask ventilation) for persons in cardiac arrest following drowning to avoid any delay in ventilation. Provision of rescue breathing using equipment (bag-mask or advanced airways) should be optimized by providing rescuers a competency based training program with regular retraining and maintenance of equipment.

RCTs: No new studies.

Observational: 1 new study<sup>3</sup>

Study Acronym; Author; Year Published	Aim of Study; Study Type; Study Size (N)	Patient Population	Study Intervention (# patients) / Study Comparator (# patients)	Endpoint Results (Absolute Event Rates, P value; OR or RR; & 95% CI)	Relevant 2° Endpoint (if any); Study Limitations; Adverse Events
Yoshimura (2024) <sup>3</sup>	<b>Study Aim:</b> Airway management during CPR <b>Study Type:</b> Retrospective observational (propensity matching)	<b>Inclusion Criteria:</b> OHC A drowning 2014-2020	<b>Intervention 1°:</b> EIT <b>Comparison:</b> SGA	<b>1° endpoint:</b> No difference in one-month survival or favourable neurological outcome.  The ROSC rate was higher in those treated with ETI versus SGA (207/3,566 [5.8%] versus 167/3,566 [4.7%], respectively; adjusted odds ratio, 1.25; 95% confidence interval [CI], 1.02–1.55).	<b>Study Limitations:</b> resuscitation time bias, retrospective

**Reviewer Comments:**

New data unlikely to change TR. No need to update SR at this time.

**Reference list:**

1. Bierens J, Bray J, Abelairas-Gomez C, et al. A systematic review of interventions for resuscitation following drowning. *Resuscitation Plus*. 2023;14:100406.
2. Dezfulian C, McCallin TE, Bierens J, et al. 2024 American Heart Association and American Academy of Pediatrics Focused Update on Special Circumstances: Resuscitation Following Drowning: An Update to the American Heart Association Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care. *Circulation*. 2024;150:e501-e516.
3. Yoshimura S, Kiguchi T, Nishioka N, et al. Association of pre-hospital tracheal intubation with outcomes after out-of-hospital cardiac arrest by drowning comparing to supraglottic airway device: A nationwide propensity score-matched cohort study. *Resuscitation*. 2024;197:110129.

## 2026 Evidence Update

### BLS 2707 – Prehospital Oxygen Administration Following Drowning

**Worksheet author(s):** Janet Bray

**Task Force:** BLS

**Date Submitted to SAC rep for peer review and approval:**

**SAC rep:** Siobhan Masterson

#### PICOST / Research Question:

PICOST	Description
<b>Population</b>	In adults and children who are submerged in water
<b>Intervention</b>	Oxygen administration before hospital arrival
<b>Comparison</b>	No oxygen administration before hospital arrival
<b>Outcomes</b>	Survival with favourable neurological outcome to discharge / 30 days or later Survival to discharge / 30 days or later Return of spontaneous circulation (ROSC)
<b>Study Design</b>	Randomized controlled trials (RCTs) and non-randomized studies (non-randomized controlled trials, interrupted time series, controlled before-and-after studies, cohort studies) are eligible for inclusion. Manikin studies will only be included if no human studies are available.
<b>Timeframe</b>	From April 2024 onward. All languages were included as long as there was an English abstract; unpublished studies (e.g., conference abstracts, trial protocols) were excluded

**Year of last full review:** 2023

#### Current ILCOR Consensus on Science and Treatment Recommendation for this PICOST:

When available, we recommend trained providers use the highest possible inspired oxygen concentration during resuscitation for adults and children in cardiac arrest following drowning (good practice statement).

#### Current Search Strategy (for an existing PICOST) included in the attached approved PICOST

Available in the systematic review.<sup>1</sup>

**Database searched:** Medline

**Time Frame:** April 2024-December 2025

**Date Search Completed:** 5<sup>th</sup> December 2025

**Search Results:** Articles identified by the search: 669; relevant articles: 1 scientific statement<sup>2</sup> and 2 observational studies.<sup>3,4</sup>

#### Summary of Evidence Update:

#### Relevant Guidelines or Systematic Reviews

Organization (if relevant); Author; Year Published	Guideline or systematic review	Topic addressed or PICO(S)T	Number of articles identified	Key findings	Treatment recommendations
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Dezfulia (2024)	Scientific statement - pediatrics	In-water resuscitation	1	Same ILCOR CoSTR	Similar to ILCOR TR
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Study Acronym; Author; Year Published	Aim of Study; Study Type; Study Size (N)	Patient Population	Study Intervention (# patients) / Study Comparator (# patients)	Endpoint Results (Absolute Event Rates, P value; OR or RR; & 95% CI)	Relevant 2° Endpoint (if any); Study Limitations; Adverse Events
Reid (2025)	<b>Study Aim:</b> to evaluate the use of oxygen by lifeguards <b>Study Type:</b> Retrospective observational	<b>Inclusion Criteria:</b> CPR provided by lifeguards 2000-2020	<b>Intervention:</b> Oxygen therapy by lifeguards <b>Comparator:</b> No oxygen therapy by lifeguards	<b>1° endpoint:</b> Increased ROSC with oxygen therapy (unadjusted OR =3.23 [95 % CI: 1.31 to 7.94], p < 0.01).	<b>Study Limitations:</b> retrospective, case ascertainment, confounding and no adjustment, small sample (n=158), temporal confounding, large number oxygen therapy unknown
Thom (2024)	<b>Study Aim:</b> to evaluate the use of oxygen by lifeguards <b>Study Type:</b> Retrospective observational (case matched)	<b>Inclusion Criteria:</b> treatment provided by lifeguards 2015-2022 and transported to ED (n=32 in OHCA)	<b>Intervention:</b> Oxygen therapy by lifeguards <b>Comparator:</b> No oxygen therapy by lifeguards	<b>1° endpoint:</b> No difference in survival to discharge with lifeguard oxygen (data not reported separately for OHCA).	<b>Study Limitations:</b> retrospective, case ascertainment, confounding and no adjustment, small sample (n=32/216 in OHCA), ED transported cases.

#### Reviewer Comments:

New data at high risk of bias and unlikely to change TR. No need to update SR at this time.

#### Reference list:

1. Bierens J, Bray J, Abelairas-Gomez C, et al. A systematic review of interventions for resuscitation following drowning. *Resuscitation Plus*. 2023;14:100406.
2. Dezfulian C, McCallin TE, Bierens J, et al. 2024 American Heart Association and American Academy of Pediatrics Focused Update on Special Circumstances: Resuscitation Following Drowning: An Update to the American Heart Association Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care. *Circulation*. 2024;150:e501-e516.
3. Reid D, Bostwick K, Lawes JC, et al. Cardiac arrest events on Australian beaches. *Resusc Plus*. 2025;26:101092.
4. Thom O, Roberts K, Devine S, et al. Impact of lifeguard oxygen therapy on the resuscitation of drowning victims: Results from an Utstein Style for Drowning Study. *Emerg Med Australas*. 2024;36:841-848.

## 2026 Evidence Update

### BLS 2708 – AED First vs CPR First in Drowning

**Worksheet author(s):** Janet Bray

**Task Force:** BLS

**Date Submitted to SAC rep for peer review and approval:**

**SAC rep:** Siobhan Masterson

**PICOST / Research Question:**

PICOST	Description
<b>Population</b>	In adults and children who are submerged in water
<b>Intervention</b>	AED administered before CPR
<b>Comparison</b>	CPR administered before AED
<b>Outcomes</b>	Survival with favourable neurological outcome to discharge / 30 days or later Survival to discharge / 30 days or later Return of spontaneous circulation (ROSC)
<b>Study Design</b>	Randomized controlled trials (RCTs) and non-randomized studies (non-randomized controlled trials, interrupted time series, controlled before-and-after studies, cohort studies) are eligible for inclusion. Manikin studies will only be included if no human studies are available.
<b>Timeframe</b>	From April 2024 onward. All languages were included as long as there was an English abstract; unpublished studies (e.g., conference abstracts, trial protocols) were excluded

**Year of last full review:** 2023

#### **Current ILCOR Consensus on Science and Treatment Recommendation for this PICOST:**

We recommend that CPR should be started first and continued until an AED has been obtained and is ready for use for adults and children in cardiac arrest caused by drowning (good practice statement).

When available, we recommend an AED is used in cardiac arrest caused by drowning in adults and children (good practice statement).

#### **Current Search Strategy (for an existing PICOST) included in the attached approved PICOST**

Available in the systematic review.<sup>1</sup>

**Database searched:** Medline

**Time Frame:** April 2024-December 2025

**Date Search Completed:** 5<sup>th</sup> December 2025

**Search Results:** Articles identified by the search: 669; relevant articles: 1 scientific statement<sup>2</sup> and 1 observational study.<sup>3</sup>

**Summary of Evidence Update:**

#### **Relevant Guidelines or Systematic Reviews**

Organization (if relevant); Author; Year Published	Guideline or systematic review	Topic addressed or PICO(S)T	Number of articles identified	Key findings	Treatment recommendations
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Dezfulia (2024)	Scientific statement - pediatrics	AED use	3	Same ILCOR CoSTR	In cardiac arrest following drowning, CPR with rescue breaths should be started before AED application. The initiation of CPR should not be delayed to obtain or apply an AED in cardiac arrest following drowning.
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**RCTs: no new studies**

**Observational: 1 new study<sup>3</sup>**

Study Acronym; Author; Year Published	Aim of Study; Study Type; Study Size (N)	Patient Population	Study Intervention (# patients) / Study Comparator (# patients)	Endpoint Results (Absolute Event Rates, P value; OR or RR; & 95% CI)	Relevant 2° Endpoint (if any); Study Limitations; Adverse Events
Reid (2025) <sup>3</sup>	<b>Study Aim:</b> AED use <b>Study Type:</b> Retrospective observational	<b>Inclusion Criteria:</b> CPR provided by lifeguards 2000-2020	<b>Intervention:</b> AED use <b>Comparison:</b> No AED use	<b>1° endpoint:</b> ROSC no difference (AED applied in 27%, shock in 4%)	<b>Study Limitations:</b> retrospective, case ascertainment, confounding and no adjustment, small sample (n=158), unclear when AED was applied.

**Reviewer Comments:**

New data at high risk of bias and unlikely to change TR. No need to update SR at this time.

**Reference list:**

1. Bierens J, Bray J, Abelairas-Gomez C, et al. A systematic review of interventions for resuscitation following drowning. *Resuscitation Plus*. 2023;14:100406.
2. Dezfulian C, McCallin TE, Bierens J, et al. 2024 American Heart Association and American Academy of Pediatrics Focused Update on Special Circumstances: Resuscitation Following Drowning: An Update to the American Heart Association Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care. *Circulation*. 2024;150:e501-e516.
3. Reid D, Bostwick K, Lawes JC, et al. Cardiac arrest events on Australian beaches. *Resusc Plus*. 2025;26:101092.

**2026 Evidence Update**

**BLS 2709 – Public Access Defibrillator (PAD) Programs for Drowning**

**Worksheet author(s):** Janet Bray

**Task Force:** BLS

**Date Submitted to SAC rep for peer review and approval:**

**SAC rep:** Siobhan Masterson

**PICOST / Research Question:**

PICOST	Description
<b>Population</b>	In adults and children who are submerged in water
<b>Intervention</b>	PAD program
<b>Comparison</b>	No PAD program
<b>Outcomes</b>	Survival with favourable neurological outcome to discharge / 30 days or later Survival to discharge / 30 days or later Return of spontaneous circulation (ROSC)
<b>Study Design</b>	Randomized controlled trials (RCTs) and non-randomized studies (non-randomized controlled trials, interrupted time series, controlled before-and-after studies, cohort studies) are eligible for inclusion. Manikin studies will only be included if no human studies are available.
<b>Timeframe</b>	From April 2024 onward. All languages were included as long as there was an English abstract; unpublished studies (e.g., conference abstracts, trial protocols) were excluded

**Year of last full review:** 2023

**Current ILCOR Consensus on Science and Treatment Recommendation for this PICOST:**

This treatment recommendation is unchanged from the standing recommendation for all OHCA.

We recommend implementing PAD programs for all patients with OHCA (strong recommendation, low-certainty evidence).

**Current Search Strategy (for an existing PICOST) included in the attached approved PICOST**

Available in the systematic review.<sup>1</sup>

**Database searched:** Medline

**Time Frame:** April 2024-December 2025

**Date Search Completed:** 5<sup>th</sup> December 2025

**Search Results:** Articles identified by the search: 669; relevant articles: 1 scientific statement.<sup>2</sup>

**Summary of Evidence Update:**

**Relevant Guidelines or Systematic Reviews**

Organization (if relevant); Author; Year Published	Guideline or systematic review	Topic addressed or PICO(S)T	Number of articles identified	Key findings	Treatment recommendations
Dezfulia (2024)	Scientific statement - pediatrics	AED use	1	Same ILCOR CoSTR	Implementation of PAD programs is reasonable in areas where there is a high

					risk of cardiac arrest, including aquatic environments (eg, areas with high population density, frequent utilization, other forms of exercise, long distances or response times to nearest AED).
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**RCTs:** No new studies

**Observational:** No new studies.

**Reviewer Comments:**

No new studies.

**Reference list:**

1. Bierens J, Bray J, Abelairas-Gomez C, et al. A systematic review of interventions for resuscitation following drowning. *Resuscitation Plus*. 2023;14:100406.
2. Dezfulian C, McCallin TE, Bierens J, et al. 2024 American Heart Association and American Academy of Pediatrics Focused Update on Special Circumstances: Resuscitation Following Drowning: An Update to the American Heart Association Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care. *Circulation*. 2024;150:e501-e516.