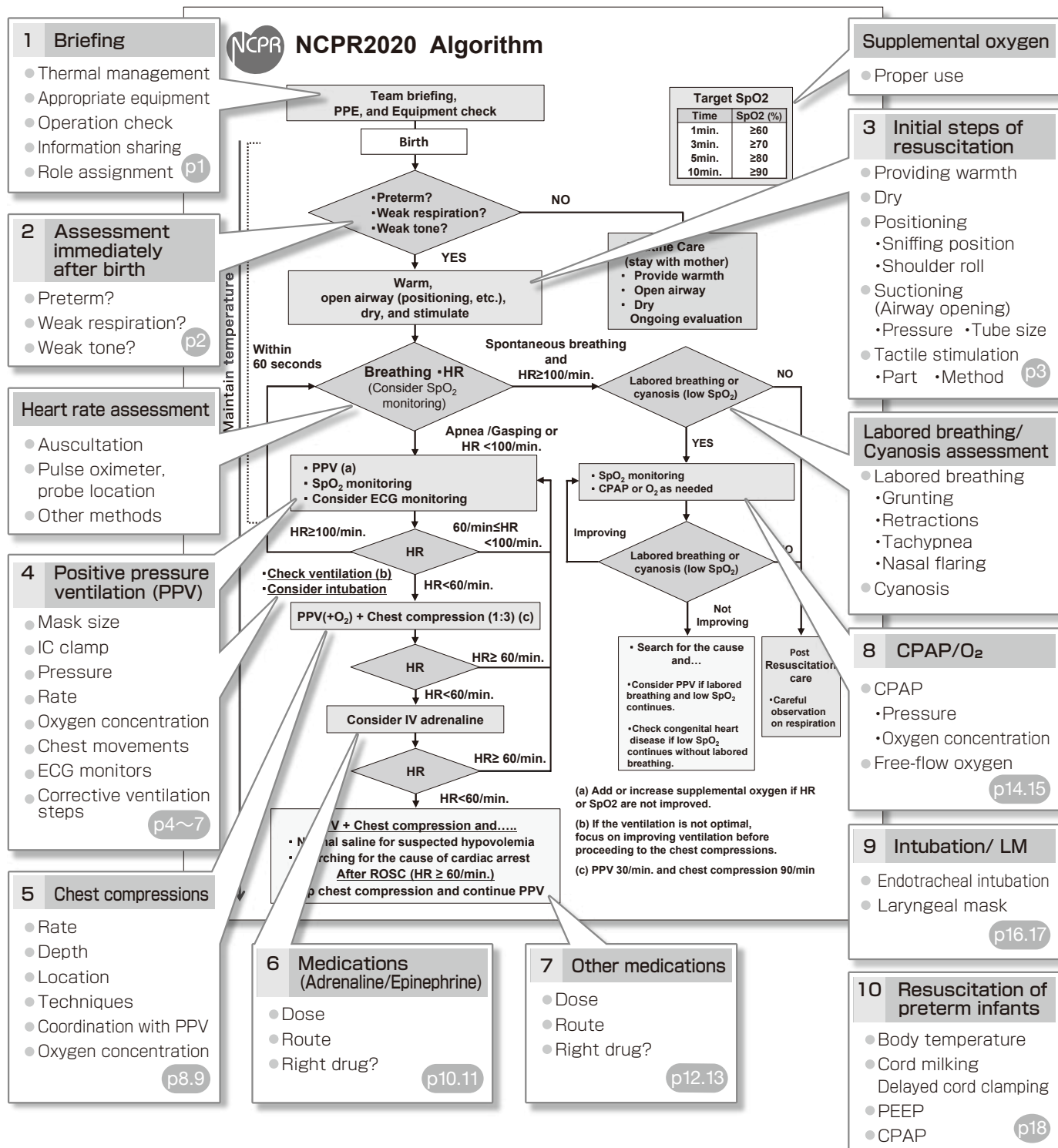


The Neonatal Cardiopulmonary Resuscitation (NCPR)2020

Skill Training Course

Self-Check Sheet

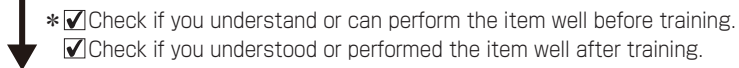
NAME _____



1

NAME _____

MEMO



Check for critical knowledge and performance	Pre-training check.	Post-training check.
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Check for critical knowledge and performance	Pre-training check.	Post-training check.
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Knowledge

7

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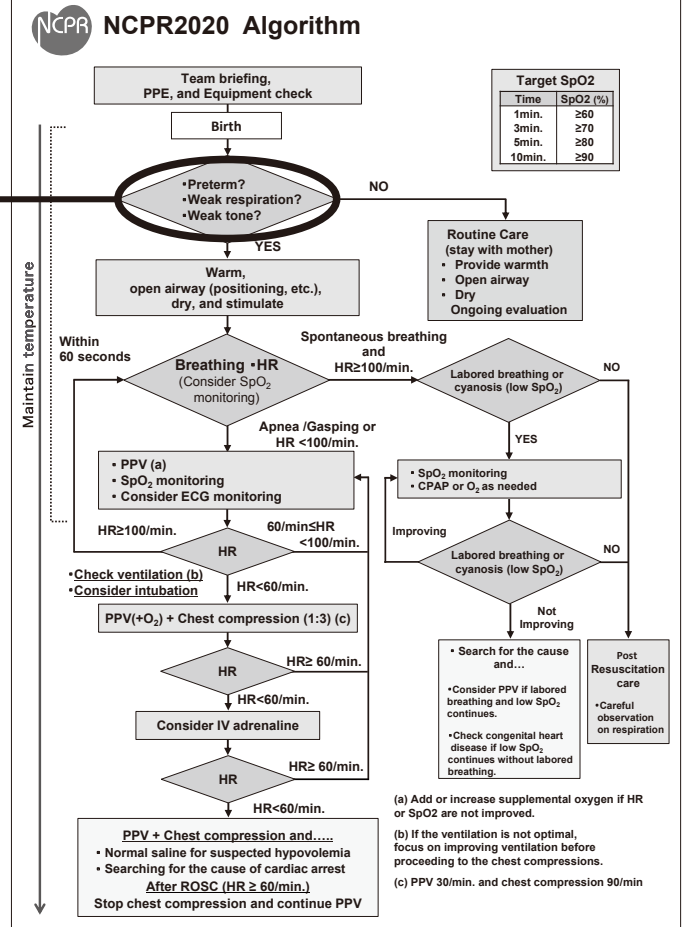
1

2

Assessment immediately after birth

NAME

MEMO



- * ☒ Check if you understand or can perform the item well before training.
☒ Check if you understood or performed the item well after training.

Check for critical knowledge and performance

Pre-training check. Post-training check.

Knowledge

Understand three evaluation points to be made immediately after birth.
 →(1) Preterm, (2) Weak breathing/Crying, (3) Weak muscle tone

☐☐

Understand when initial steps for resuscitation are required.
 →Perform the initial steps of resuscitation if any one of the three evaluation points is met.

☐☐

Skill

Check gestational age (preterm or term).

☐☐

Check respiration or crying.

☐☐

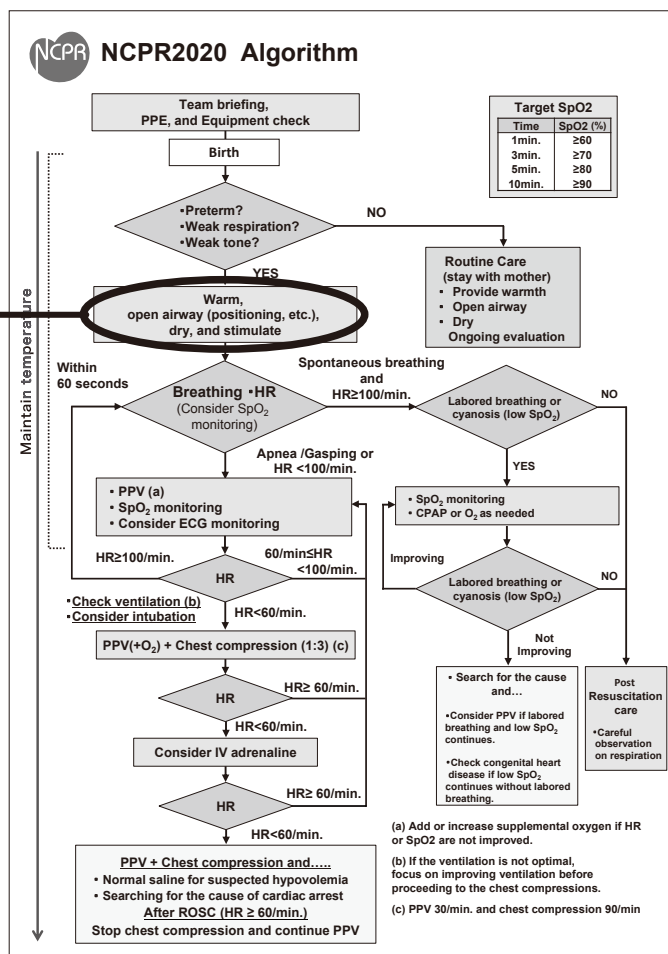
Check muscle tone.

☐☐

3 Initial steps of resuscitation

NAME

MEMO



- * ☒ Check if you understand or can perform the item well before training.
☒ Check if you understood or performed the item well after training.

Check for critical knowledge and performance

Pre-training check. Post-training check.

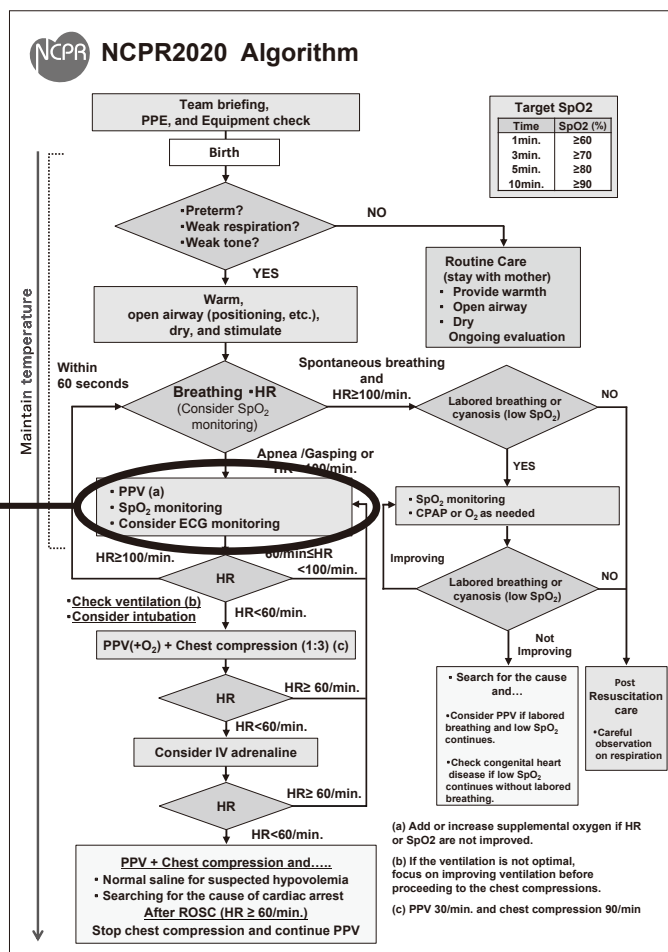
Preparation	Select appropriate size of suction catheter.	For term infants with clear amniotic fluid: 10Fr or 8Fr.	<input type="checkbox"/>	<input type="checkbox"/>
		For low birth weight infants with clear amniotic fluid: 8Fr or 6Fr.	<input type="checkbox"/>	<input type="checkbox"/>
		For term infants with meconium-stained amniotic fluid: 12Fr or 14Fr.	<input type="checkbox"/>	<input type="checkbox"/>
Skill	Warmth and dry.	Bring to radiant warmer.	<input type="checkbox"/>	<input type="checkbox"/>
		Wipe airway amniotic fluid with a pre-warmed dry towel.	<input type="checkbox"/>	<input type="checkbox"/>
		Remove wet towel.	<input type="checkbox"/>	<input type="checkbox"/>
	Positioning.	Keep sniffing position with shoulder roll.	<input type="checkbox"/>	<input type="checkbox"/>
	Open-airway management.	Avoid deep insertion of suction catheter.	<input type="checkbox"/>	<input type="checkbox"/>
		Keep suction time within 5 seconds.	<input type="checkbox"/>	<input type="checkbox"/>
		Understand the order of suction. →Suction the oral cavity first and then the nasal cavity.	<input type="checkbox"/>	<input type="checkbox"/>
		Use the negative pressure within 100 mmHg (13 kPa).	<input type="checkbox"/>	<input type="checkbox"/>
	Tactile stimulation.	Rub the neonate's back, trunk, or limbs with warmed towel gently.	<input type="checkbox"/>	<input type="checkbox"/>
		Tap or flick the soles of the neonate's feet briefly.	<input type="checkbox"/>	<input type="checkbox"/>

4-1

Ventilation (self-inflating bag)

NAME

MEMO



- * ☒ Check if you understand or can perform the item well before training.
☒ Check if you understood or performed the item well after training.

Check for critical knowledge and performance

Pre-training check. Post-training check.

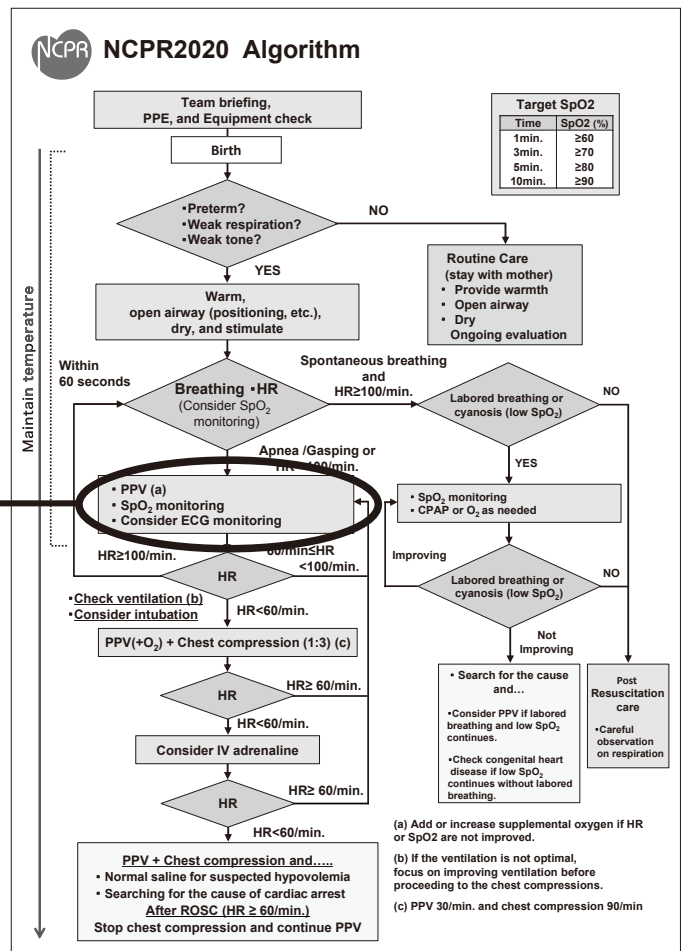
Knowledge	Understand the indications for ventilation. →Recognize apnea or bradycardia of less than 100/min after initial steps of resuscitation.	<input type="checkbox"/>	<input type="checkbox"/>
	Understand that effective ventilation should be initiated by 60 seconds of life at the latest if the child does not respond to the initial steps of resuscitation.	<input type="checkbox"/>	<input type="checkbox"/>
	Understand the oxygen concentration to use when initiating ventilation in term neonates. →21% (room air)	<input type="checkbox"/>	<input type="checkbox"/>
Preparation	Select the bag for neonate.	<input type="checkbox"/>	<input type="checkbox"/>
	Check the bag before use (pressure release valve, break of the bag etc.)	<input type="checkbox"/>	<input type="checkbox"/>
	Understand criteria to select the mask size. →Select appropriate mask size (cover the neonate's nose and mouth but not the eyes.)	<input type="checkbox"/>	<input type="checkbox"/>
Skill	Keep sniffing position with shoulder roll (assess the open airway).	<input type="checkbox"/>	<input type="checkbox"/>
	Hold the neonate's jaw and the mask with the IC clamp technique.	<input type="checkbox"/>	<input type="checkbox"/>
	Put the mask on the neonate's face and keep airtight seal.	<input type="checkbox"/>	<input type="checkbox"/>
	Provide ventilation at a rate of 40 to 60 breaths per minutes.	<input type="checkbox"/>	<input type="checkbox"/>
	Check chest movements.	<input type="checkbox"/>	<input type="checkbox"/>

4-2

Ventilation (flow-inflating bag)

NAME

MEMO



- * ☒ Check if you understand or can perform the item well before training.
☒ Check if you understood or performed the item well after training.

Check for critical knowledge and performance

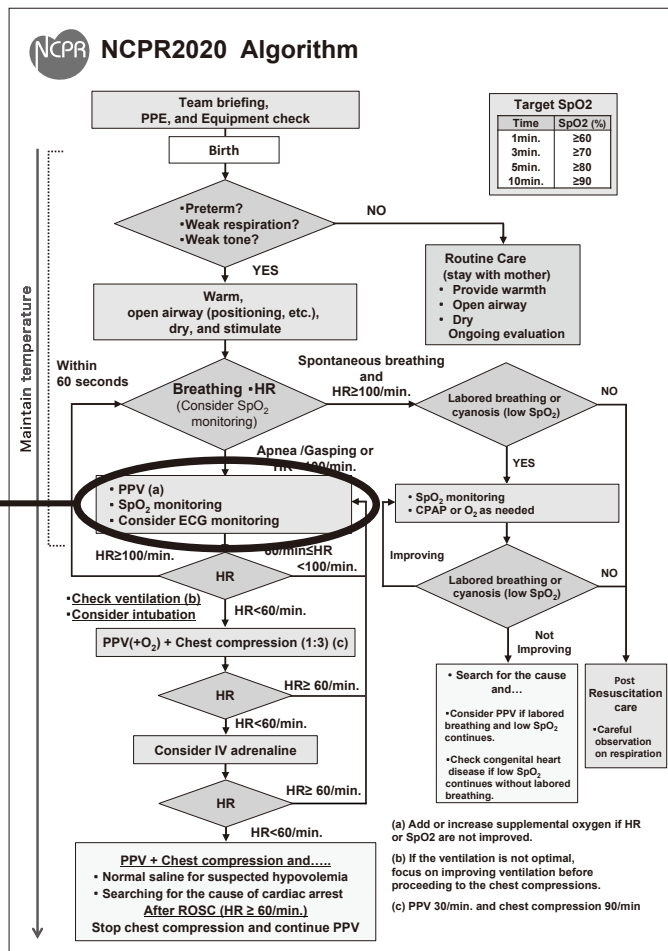
Pre-training check. Post-training check.

Knowledge	Understand the indications for ventilation. →Recognize apnea or bradycardia of less than 100/min after initial steps of resuscitation.	<input type="checkbox"/>	<input type="checkbox"/>
	Understand that effective ventilation should be initiated by 60 seconds of life at the latest if the child does not respond to the initial steps of resuscitation.	<input type="checkbox"/>	<input type="checkbox"/>
	Understand the oxygen concentration to use when initiating ventilation in term neonates. →21%(room air)	<input type="checkbox"/>	<input type="checkbox"/>
Preparation	Attach a manometer (pressure gauge).	<input type="checkbox"/>	<input type="checkbox"/>
	Set flow rate to approximately 5 to 10 mL/min.	<input type="checkbox"/>	<input type="checkbox"/>
	Understand criteria to select the mask size. →Select appropriate mask size. (Cover the neonate's nose and mouth but not the eyes.)	<input type="checkbox"/>	<input type="checkbox"/>
Skill	Keep sniffing position with shoulder roll (assess the open airway).	<input type="checkbox"/>	<input type="checkbox"/>
	Hold the neonate's jaw and the mask with the IC clamp technique.	<input type="checkbox"/>	<input type="checkbox"/>
	Put the mask on the neonate's face and keep airtight seal.	<input type="checkbox"/>	<input type="checkbox"/>
	Initiating ventilation with pressure to 20 to 30 cmH ₂ O.	<input type="checkbox"/>	<input type="checkbox"/>
	Provide ventilation at a rate of 40 to 60 breaths per minutes.	<input type="checkbox"/>	<input type="checkbox"/>
	Check chest movements.	<input type="checkbox"/>	<input type="checkbox"/>

4-3 Ventilation (T-piece resuscitator)

NAME

MEMO



- * ☒ Check if you understand or can perform the item well before training.
☒ Check if you understood or performed the item well after training.

Check for critical knowledge and performance

Pre-training check. Post-training check.

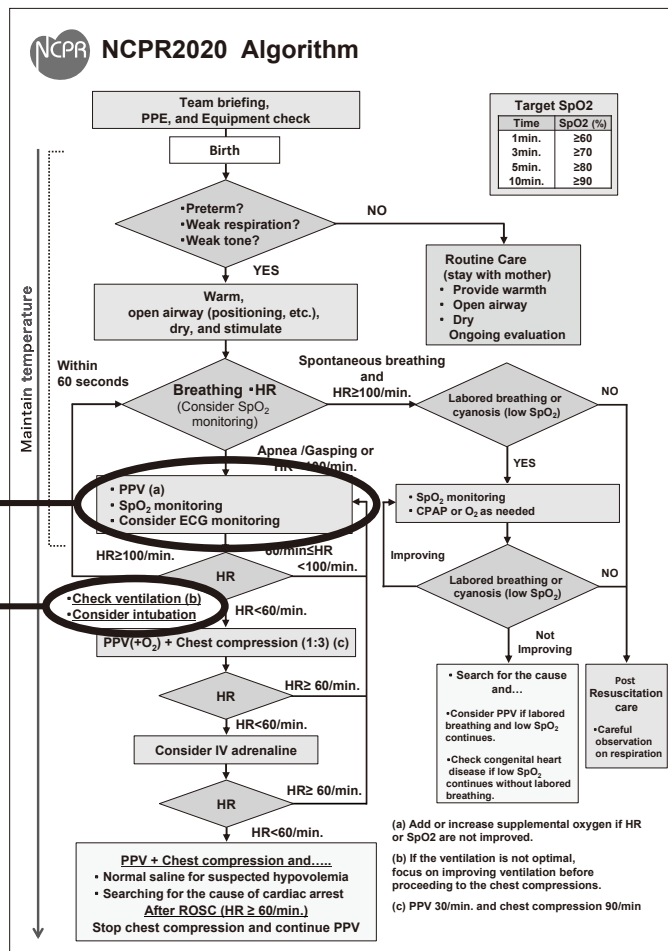
Knowledge	Understand the indications for ventilation. →Recognize apnea or bradycardia of less than 100/min after initial steps of resuscitation.	<input type="checkbox"/>	<input type="checkbox"/>
	Understand that effective ventilation should be initiated by 60 seconds of life at the latest if the child does not respond to the initial steps of resuscitation	<input type="checkbox"/>	<input type="checkbox"/>
	Understand the oxygen concentration to use when initiating ventilation in term neonates. →21%(room air)	<input type="checkbox"/>	<input type="checkbox"/>
Preparation	Check gas supplies at delivery room (oxygen or air or mixed gas).	<input type="checkbox"/>	<input type="checkbox"/>
	Connect the gas supply and T-piece resuscitator (tube of gas supply or piping tube).	<input type="checkbox"/>	<input type="checkbox"/>
	Set the dedicated circuit.	<input type="checkbox"/>	<input type="checkbox"/>
	Set the flow rate to approximately 5 to 10 mL/min.	<input type="checkbox"/>	<input type="checkbox"/>
	Set the peak inspiratory pressure (PIP) to 20 to 30 cmH2O and the PEEP to 5cmH2O by using a test bag.	<input type="checkbox"/>	<input type="checkbox"/>
Skill	Understand criteria to select the mask size. →Select appropriate mask size (cover the neonate's nose and mouth but not the eyes.)	<input type="checkbox"/>	<input type="checkbox"/>
	Keep sniffing position with shoulder roll (assess the open airway).	<input type="checkbox"/>	<input type="checkbox"/>
	Hold the neonate's jaw and the mask with the IC clamp technique.	<input type="checkbox"/>	<input type="checkbox"/>
	Put the mask on the neonate's face and keep airtight seal.	<input type="checkbox"/>	<input type="checkbox"/>
	Provide ventilation at a rate of 40 to 60 breaths per minutes by opening and closing the expiratory valve opening.	<input type="checkbox"/>	<input type="checkbox"/>
	Check chest movements.	<input type="checkbox"/>	<input type="checkbox"/>

4-4

Corrective ventilation steps

NAME

MEMO



- * ☒ Check if you understand or can perform the item well before training.
☒ Check if you understood or performed the item well after training.

Check for critical knowledge and performance

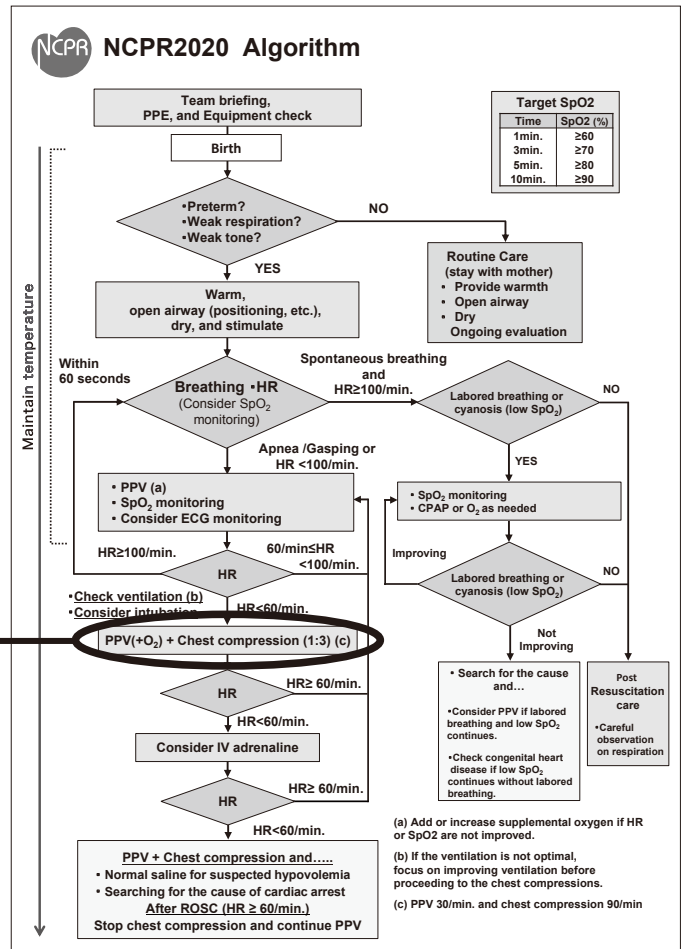
Pre-training check. Post-training check.

Knowledge	Understand three indicators for assessing the achievement of effective ventilation.	Check heart rate improvement.	<input type="checkbox"/>	<input type="checkbox"/>
		Re-check chest movements.	<input type="checkbox"/>	<input type="checkbox"/>
		Check end-tidal CO ₂ (while the neonate is intubated).	<input type="checkbox"/>	<input type="checkbox"/>
Skill	Solve problems by using these corrective steps when the ventilation is not effective.	Check airtight seal between the mask and the neonate's face (Check the IC clamp technique).	<input type="checkbox"/>	<input type="checkbox"/>
		Check "sniffing position" for airway management.	<input type="checkbox"/>	<input type="checkbox"/>
		Perform oral/nasal suctioning.	<input type="checkbox"/>	<input type="checkbox"/>
		Increase ventilation pressure.	<input type="checkbox"/>	<input type="checkbox"/>
		Consider alternative airway.	<input type="checkbox"/>	<input type="checkbox"/>

Chest compressions (two-finger technique)

NAME

MEMO



- * ☒ Check if you understand or can perform the item well before training.
☒ Check if you understood or performed the item well after training.

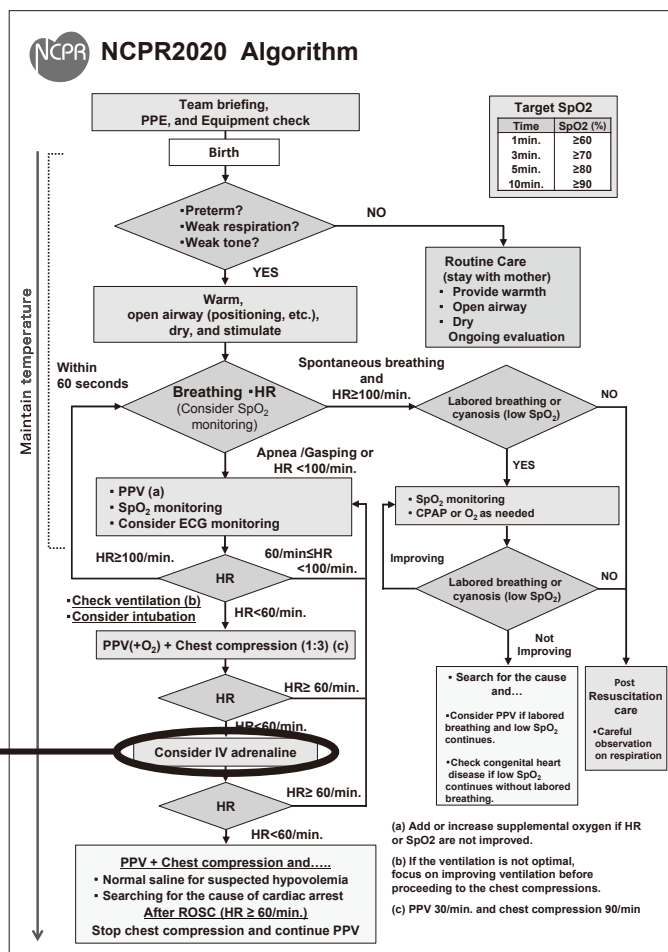
Check for critical knowledge and performance		Pre-training check.	Post-training check.
Knowledge	Understand indications for chest compressions. →When the heart rate is less than 60/min despite effective ventilation for 30 seconds.	<input type="checkbox"/>	<input type="checkbox"/>
	Understand to increase oxygen when initiating chest compressions.	<input type="checkbox"/>	<input type="checkbox"/>
	Understand indications for stopping chest compressions. →When the heart rate is more than 60/min.	<input type="checkbox"/>	<input type="checkbox"/>
Skill	Administer chest compressions with two fingers, either the index finger and middle finger or the middle finger and ring finger.	<input type="checkbox"/>	<input type="checkbox"/>
	Place the other hand or a massage board on the neonate's back.	<input type="checkbox"/>	<input type="checkbox"/>
	Administer compressions on the lower third of the sternum.	<input type="checkbox"/>	<input type="checkbox"/>
	Administer compressions to a depth of one-third of the anterior-posterior diameter of the chest.	<input type="checkbox"/>	<input type="checkbox"/>
	Do not remove the fingers from the chest even when releasing pressure.	<input type="checkbox"/>	<input type="checkbox"/>
	Administer three compressions followed by one ventilation (3 to 1 ratio with 2 seconds for each cycle).	<input type="checkbox"/>	<input type="checkbox"/>
	Administer 90 chest compressions and 30 ventilations in a minute.	<input type="checkbox"/>	<input type="checkbox"/>
	The care provider performing chest compressions act as pacemakers by saying the rhythm aloud.	<input type="checkbox"/>	<input type="checkbox"/>

6-1

Intravenous adrenaline administration

NAME

MEMO



- * ☒ Check if you understand or can perform the item well before training.
☒ Check if you understood or performed the item well after training.

Check for critical knowledge and performance

Pre-training check. Post-training check.

Knowledge

- Understand indications for adrenaline administration.
 →When the heart rate is less than 60/min despite effective ventilation and chest compression.
- Understand the route for intravenous adrenaline administration (umbilical vein, intraosseous route, peripheral vein).
- Understand the dose of adrenaline for intravenous administration.
 →Ten-fold diluted adrenaline (0.01%): 0.1 to 0.3mL/kg

Preparation

- Dilute one ampule (1 mL) of adrenaline (0.1%) by a factor of 10 using 9 mL of normal saline (10 mL total) to prepare 10-fold diluted adrenaline (0.01%).

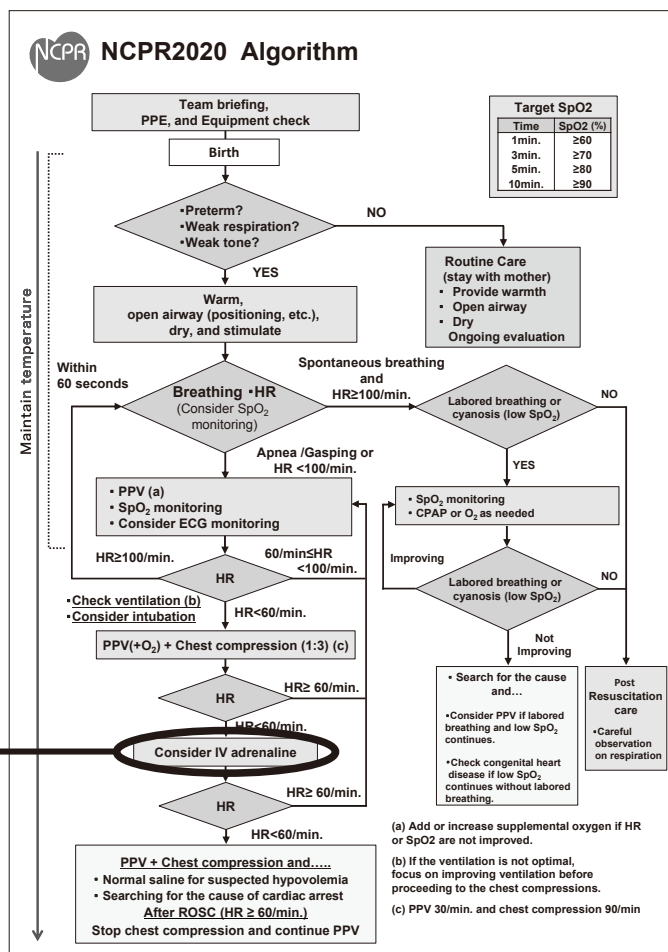
Skill

- Administer a dose of 10-fold diluted adrenaline rapidly.
- Flush the route with normal saline to ensure the administration of the entire dose after administering the adrenaline.
- Assess the heart rate every 30 seconds after adrenaline administration. If the heart rate remains less than 60/min, administer additional doses every 3 to 5 minutes.

6-2 Endotracheal adrenaline administration

NAME

MEMO



- * ☒ Check if you understand or can perform the item well before training.
☒ Check if you understood or performed the item well after training.

Check for critical knowledge and performance

Pre-training check. Post-training check.

Knowledge

Understand indications for adrenaline administration
 →When the heart rate is less than 60/min despite effective ventilation and chest compression.

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Understand that endotracheal administration is the second-best approach.

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Understand the dose of adrenaline for endotracheal administration.
 →Ten-fold diluted adrenaline (0.01%):0.5 to 1.0mL/kg

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Preparation

Dilute one ampule (1 mL) of adrenaline (0.1%) by a factor of 10 using 9 mL of normal saline (10 mL total) to prepare 10-fold diluted adrenaline (0.01%).

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☐

Skill

Ensure that no drug solution remains in the endotracheal tube or any of the connecting tubes after administering adrenaline.

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Initiate ventilation promptly after administration to promote absorption of the drug through the trachea.

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Assess the heart rate approximately every 30 seconds after administration. If the heart rate remains less than 60/min, administer additional doses every 3 to 5 minutes.

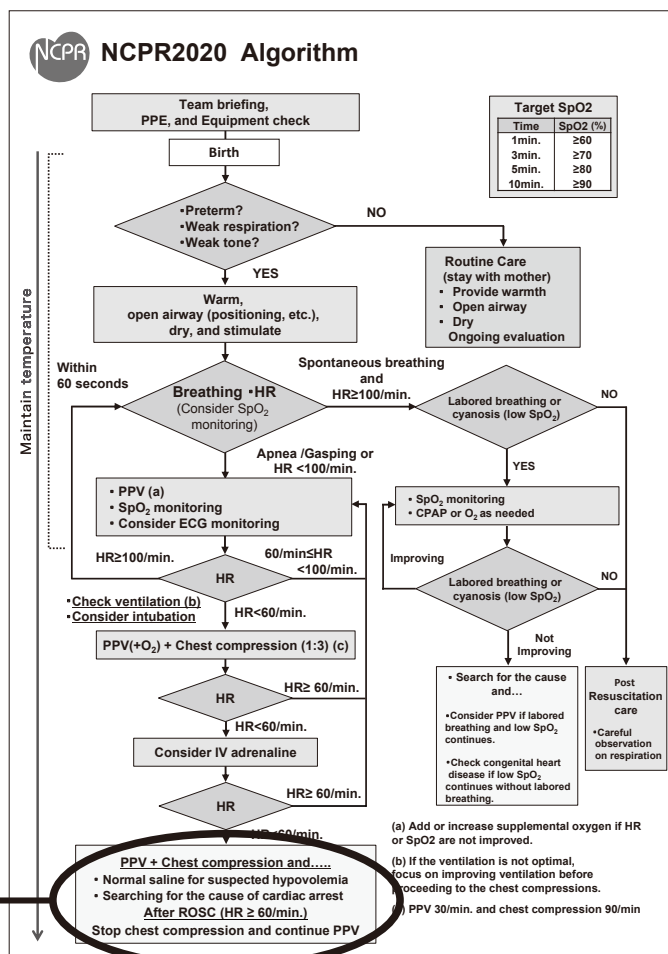
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7-1

Intravenous volume expanders administration

NAME

MEMO



- * ☒ Check if you understand or can perform the item well before training.
☒ Check if you understood or performed the item well after training.

Check for critical knowledge and performance

Pre-training check. Post-training check.

Knowledge

Understand indications for volume expanders administration.

→When a neonate has obvious drop in circulating blood volume despite ventilation, chest compressions and adrenaline administration.

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Understand that normal saline is the recommended volume expander to use.

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Understand that the other recommended volume expanders are lactated Ringer's solution and type O Rh-negative.

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Understand that type O Rh-negative packed red blood cells can be used if the neonate might have had anemia during the fetal period.

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Understand the dose of volume expanders (10mL/kg).

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Skill

Administer volume expanders intravenously over a period of 5 to 10 minutes.

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Administer the same dose if the response is inadequate.

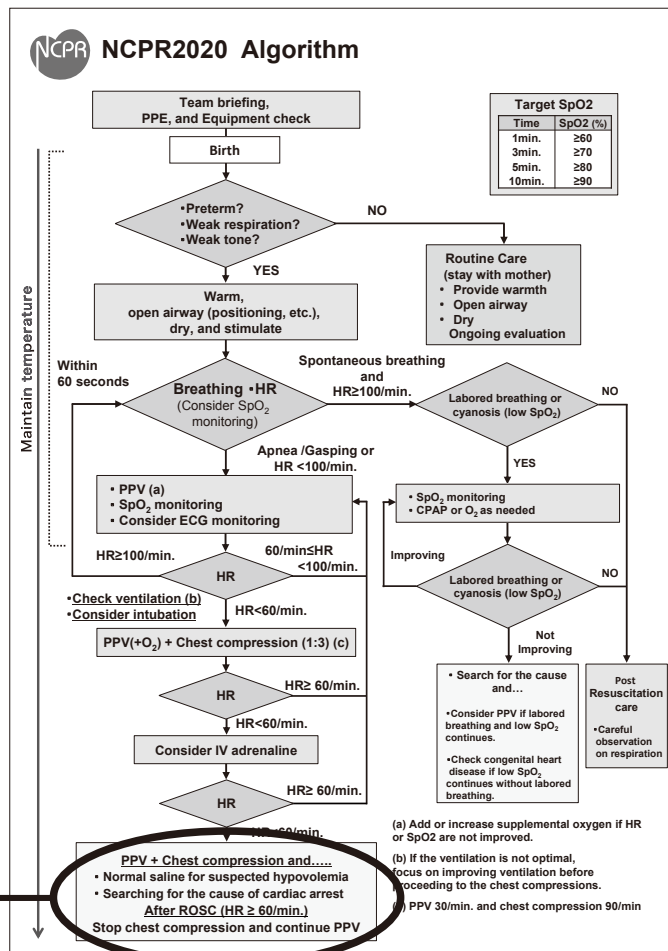
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7-2

Intravenous sodium bicarbonate administration

NAME

MEMO



- * ☒ Check if you understand or can perform the item well before training.
☒ Check if you understood or performed the item well after training.

Check for critical knowledge and performance

Pre-training check. Post-training check.

Knowledge

- Understand indication for sodium bicarbonate administration.
 →When there is an apparent metabolic acidosis preventing hemodynamic improvement despite adequate ventilatory management.
- Understand the dose of sodium bicarbonate.
 →Two-fold diluted sodium bicarbonate : 2 to 4 mL/kg
- Understand that the route of sodium bicarbonate administration is intravenous.

<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>

Preparation

- Dilute sodium bicarbonate with distilled water by a factor of two.

<input type="checkbox"/>	<input type="checkbox"/>
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Skill

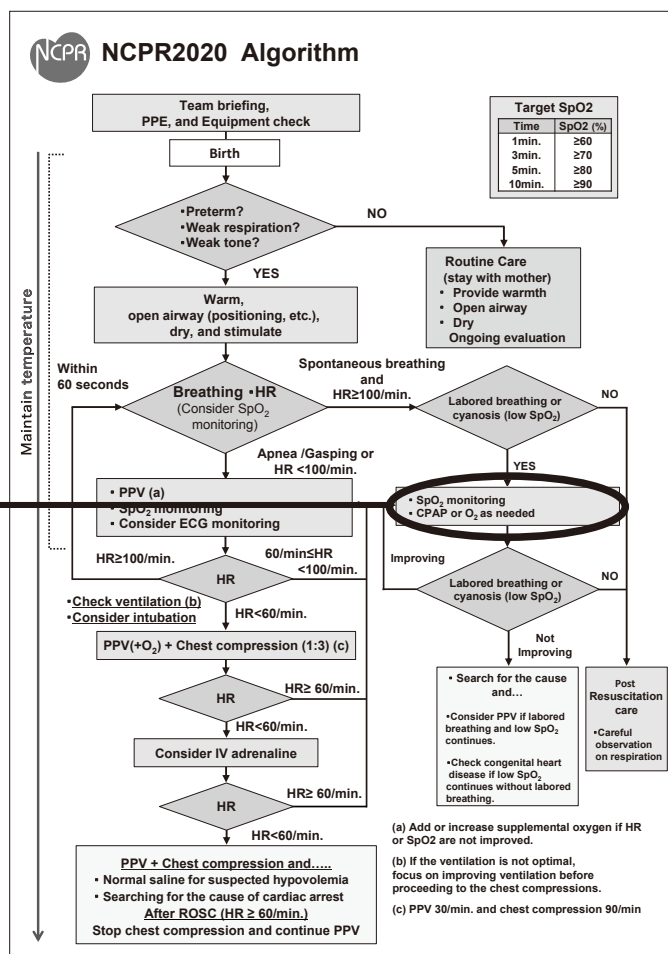
- Administer sodium bicarbonate solution intravenously at a rate of at least 1 mL/kg/min (over a period of 2 to 4 minutes).

<input type="checkbox"/>	<input type="checkbox"/>
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8-1 CPAP

NAME _____

MEMO



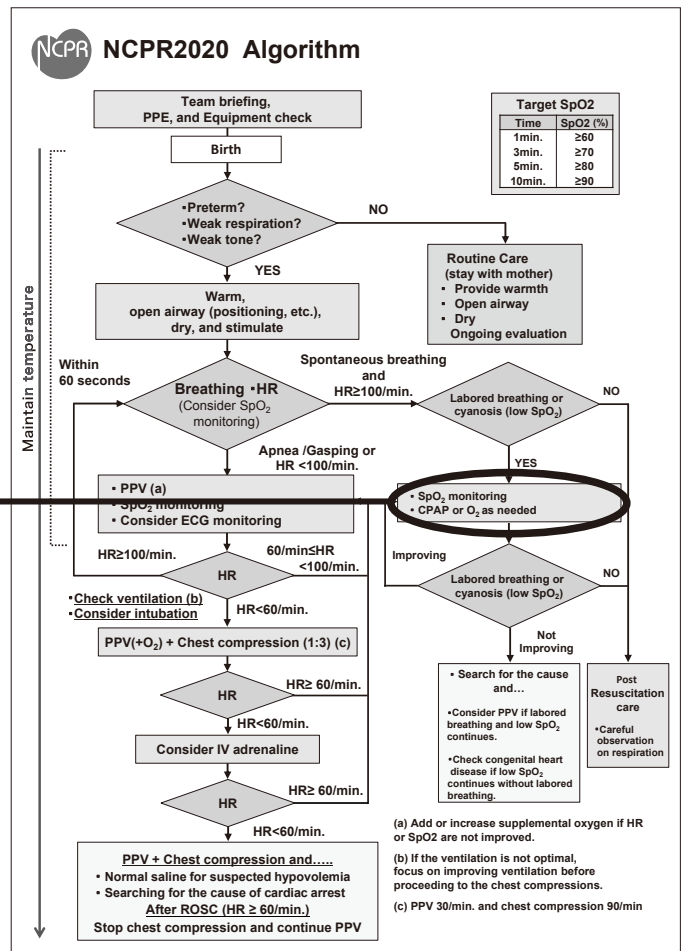
* ☒ Check if you understand or can perform the item well before training.
☒ Check if you understood or performed the item well after training.

	Check for critical knowledge and performance	Pre-training check.	Post-training check.
Knowledge	Understand indications for CPAP. →When the respiratory distress with labored breathing or poor oxygenation (cyanosis or low SpO ₂) persists.	<input type="checkbox"/>	<input type="checkbox"/>
	Understand to initiate CPAP with room air in term and near-term infants.	<input type="checkbox"/>	<input type="checkbox"/>
Preparation	Prepare a flow-inflating bag or a T-piece resuscitator.	<input type="checkbox"/>	<input type="checkbox"/>
	Select appropriate mask size (cover the neonate's nose and mouth but not eyes).	<input type="checkbox"/>	<input type="checkbox"/>
Skill	Keep sniffing position with shoulder roll (assess the airway).	<input type="checkbox"/>	<input type="checkbox"/>
	Hold the neonate's jaw and the mask with the IC clamp technique.	<input type="checkbox"/>	<input type="checkbox"/>
	Put the mask on the neonate's face and keep airtight seal.	<input type="checkbox"/>	<input type="checkbox"/>
	Adjust PEEP to 5 to 6 cmH ₂ O and avoid PEEP of more than 8 cmH ₂ O.	<input type="checkbox"/>	<input type="checkbox"/>

8-2 Free-flow oxygen

NAME

MEMO



* ☒ Check if you understand or can perform the item well before training.
☒ Check if you understood or performed the item well after training.

Check for critical knowledge and performance

Pre-training check. Post-training check.

Knowledge

Understand indication for free-flow oxygen.
 →①Persistent poor oxygenation (cyanosis or low SpO₂)
 →②If only labored breathing persists, the free-flow oxygen can be used as a second option when CPAP can't be provided

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☐

Preparation

Prepare an oxygen tube, a flow-inflating bag, or a T-piece resuscitator. (Do not use a self-inflating bag to administer free flow oxygen.)

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☐

Skill

When using an oxygen tube, administer oxygen by holding the oxygen tube close to the neonate's nose and mouth with a hand cupping.
 When using a flow-inflating bag or a T-piece resuscitator, administer oxygen by holding the mask close to the neonate's nose and mouth.

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☐

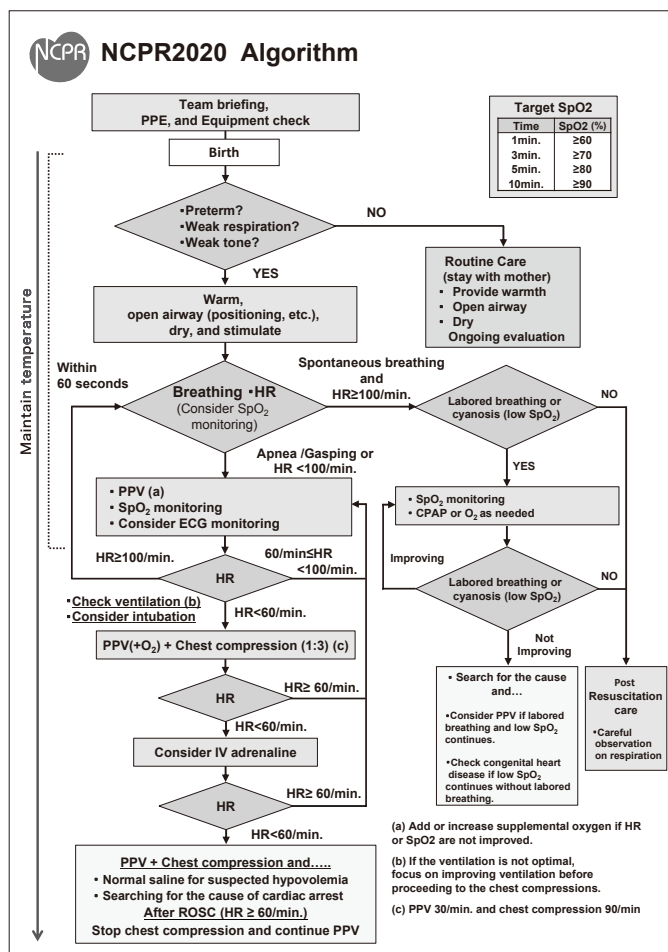
Adjust the oxygen concentration while assessing SpO₂.

☐
☐

9-1 Endotracheal intubation

NAME

MEMO



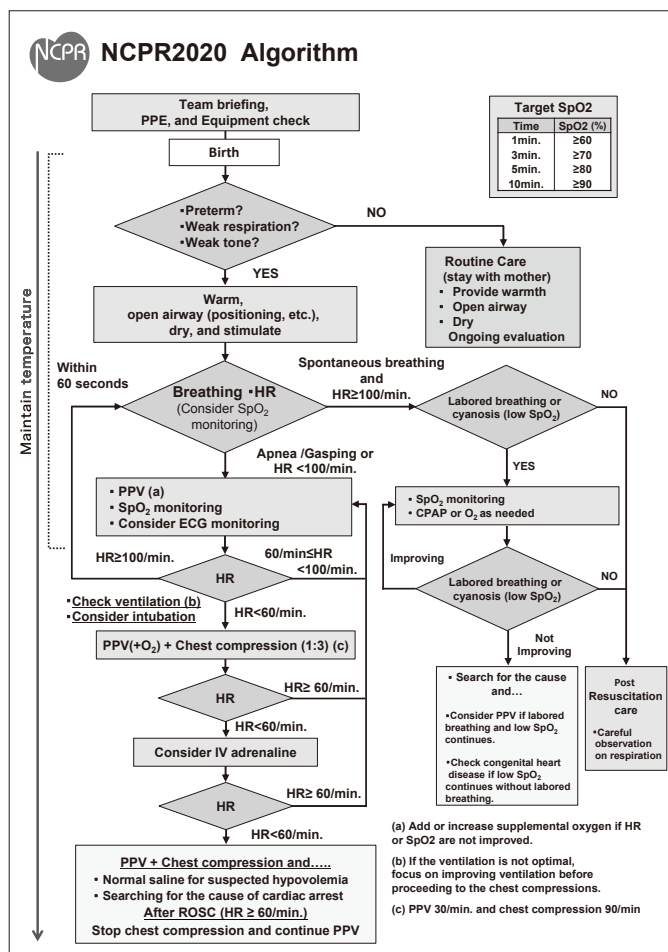
- * ☒ Check if you understand or can perform the item well before training.
☒ Check if you understood or performed the item well after training.

Check for critical knowledge and performance		Pre-training check.	Post-training check.
Knowledge	Understand indications for endotracheal intubation.	<input type="checkbox"/>	<input type="checkbox"/>
Preparation	Prepare appropriate supplies for endotracheal intubation.	<input type="checkbox"/>	<input type="checkbox"/>
	Select appropriate size of the endotracheal tube.	<input type="checkbox"/>	<input type="checkbox"/>
Skill	Keep sniffing position without the shoulder roll or with the thin towel under the back of head.	<input type="checkbox"/>	<input type="checkbox"/>
	Hold the laryngoscope with your left hand.	<input type="checkbox"/>	<input type="checkbox"/>
	Advance the blade tip beyond the base of the tongue to a position where it holds the epiglottis.	<input type="checkbox"/>	<input type="checkbox"/>
	Lift the blade slightly to lift the tongue and expose the pharyngeal area.	<input type="checkbox"/>	<input type="checkbox"/>
	*Do not lift the tip of the blade alone.	<input type="checkbox"/>	<input type="checkbox"/>
	Look for anatomical landmarks.	<input type="checkbox"/>	<input type="checkbox"/>
	Hold the tube with your right hand.	<input type="checkbox"/>	<input type="checkbox"/>
	Insert from the right corner of the neonate's mouth while keeping the curve of the tube horizontal.	<input type="checkbox"/>	<input type="checkbox"/>
	Insert the tube to the point where the vocal cord guide reaches the vocal cords.	<input type="checkbox"/>	<input type="checkbox"/>
	Carefully withdraw the laryngoscope while keeping the tube securely in place with your right hand.	<input type="checkbox"/>	<input type="checkbox"/>
	Intubation attempt should be performed within 20 seconds.	<input type="checkbox"/>	<input type="checkbox"/>
	Check the length of tube is 6cm+BW(kg) at the corner of the mouth.	<input type="checkbox"/>	<input type="checkbox"/>
	Check the tip of the tube is properly positioned between the vocal cords and the carina.	<input type="checkbox"/>	<input type="checkbox"/>
	Secure the tube with tape or another securing device.	<input type="checkbox"/>	<input type="checkbox"/>

9-2 Laryngeal mask (LM)

NAME _____

MEMO



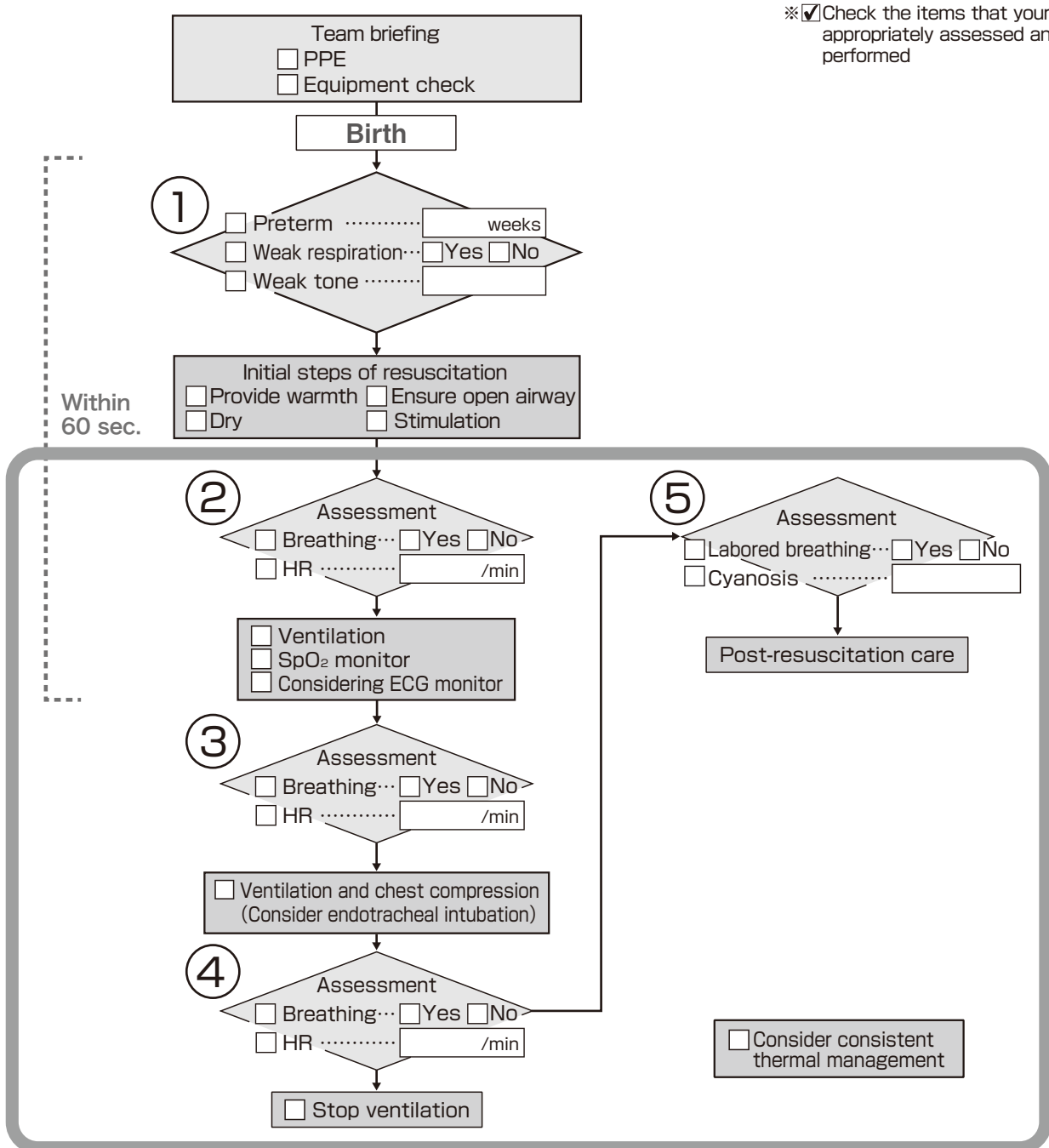
* ☒ Check if you understand or can perform the item well before training.
☒ Check if you understood or performed the item well after training.

Check for critical knowledge and performance		Pre-training check.	Post-training check.
Knowledge	Understand indications for LM.	<input type="checkbox"/>	<input type="checkbox"/>
	→When ventilation with a face mask is not effective in neonates over 34 weeks' gestation.		
Preparation	Prepare appropriate supplies.	<input type="checkbox"/>	<input type="checkbox"/>
	Prepare the appropriate size of the tube.	<input type="checkbox"/>	<input type="checkbox"/>
	→The size 1 LM can be used for neonates weighing 2 to 5 kg.		
	If using an LM with a cuff, inflate the cuff before inserting for pre-use inspection.	<input type="checkbox"/>	<input type="checkbox"/>
	If using an LM with a cuff, fully deflate the cuff before inserting.	<input type="checkbox"/>	<input type="checkbox"/>
Skill	Keep sniffing position with shoulder roll (assess the open airway).	<input type="checkbox"/>	<input type="checkbox"/>
	Place the index finger on the tip of the mask opening and hold the LM with two fingers.	<input type="checkbox"/>	<input type="checkbox"/>
	Use the other hand to open the neonate's mouth and advance the LM along the hard palate with the index finger until it meets resistance.	<input type="checkbox"/>	<input type="checkbox"/>
	Remove the index finger while supporting the tube with one hand.	<input type="checkbox"/>	<input type="checkbox"/>
	If using an LM with a cuff, inflate the cuff with the designated amount of air.	<input type="checkbox"/>	<input type="checkbox"/>
	Confirm appropriate placement of the LM tip by five-point auscultation or observing the chest movements, exhaled CO ₂ detected with an end-tidal CO ₂ monitor or capnometer.	<input type="checkbox"/>	<input type="checkbox"/>
	Secure the LM with tape.	<input type="checkbox"/>	<input type="checkbox"/>

NCPR S course scenario(Ventilation)

NAME

TEAM



Check-points for better resuscitation

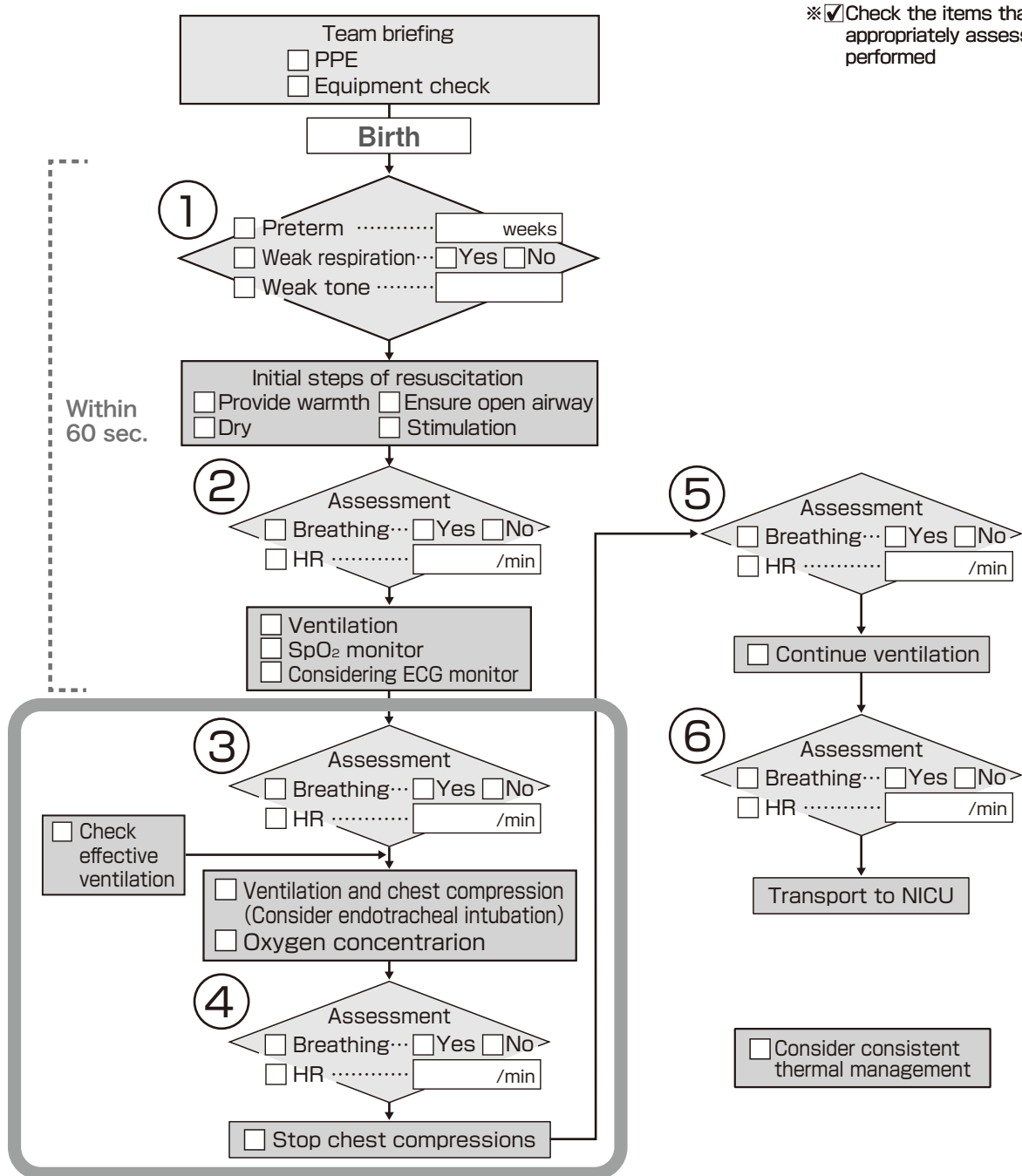
- ☐ Did you have a constructive decision making with all team member?
- ☐ Did you make another suggestion when the leader's instructions and opinions are conflict with yours?
- ☐ Did you communicate well with other team members during resuscitation?
- ☐ Did you help each other to solve issues in resuscitation?

The goals for the next time

NCPR S course scenario(Chest compression)

NAME

TEAM



Check-points for better resuscitation

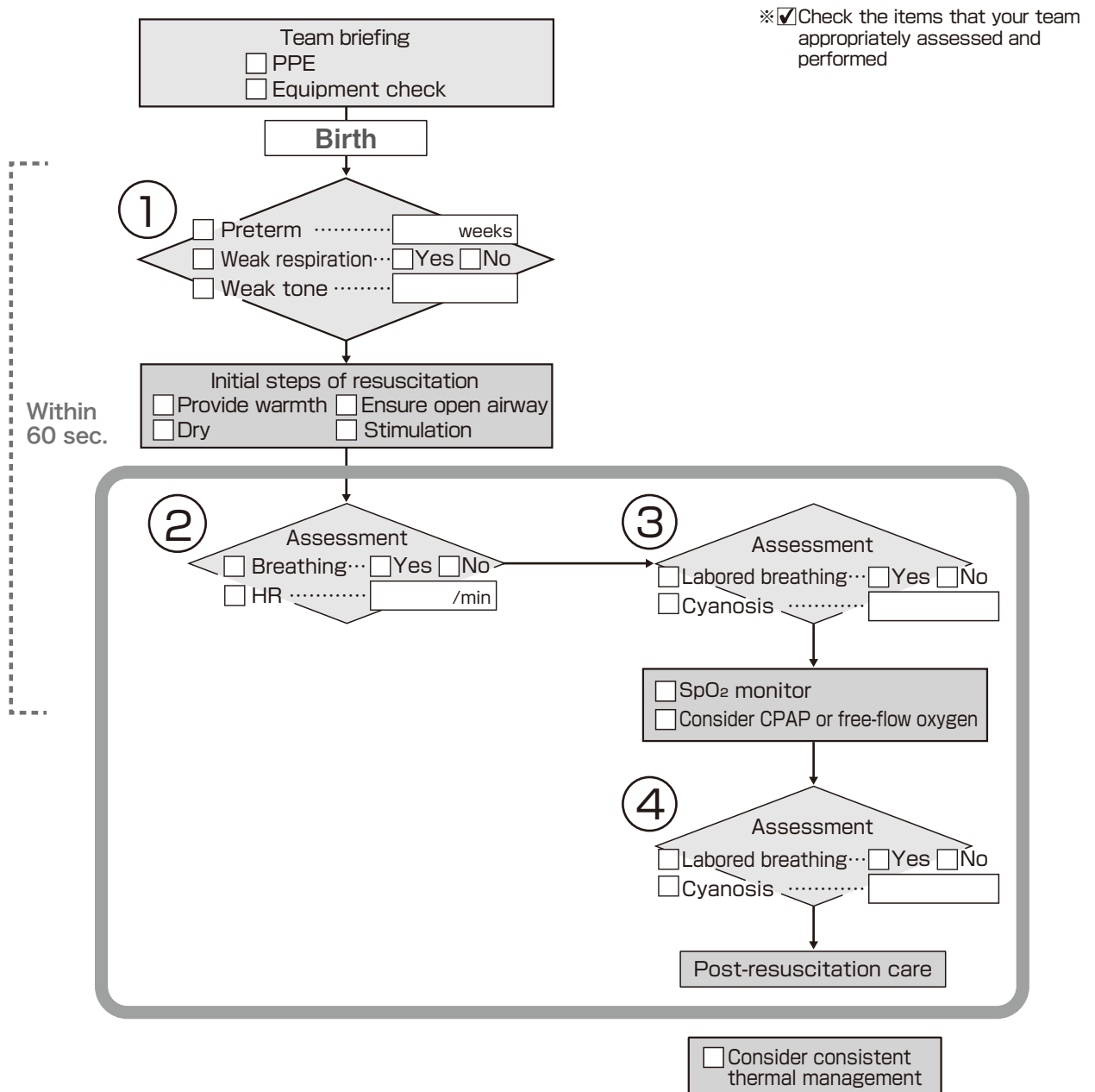
- ☐ Did you predict and prepare the next action during resuscitation?
- ☐ Did you complete your assigned roles appropriately under the leadership?
- ☐ Did you state your action clearly during resuscitation?
- ☐ Did you check and evaluate the resuscitation techniques each other?

The goals for the next time

NCPR S course scenario(CPAP)

NAME

TEAM



Check-points for better resuscitation

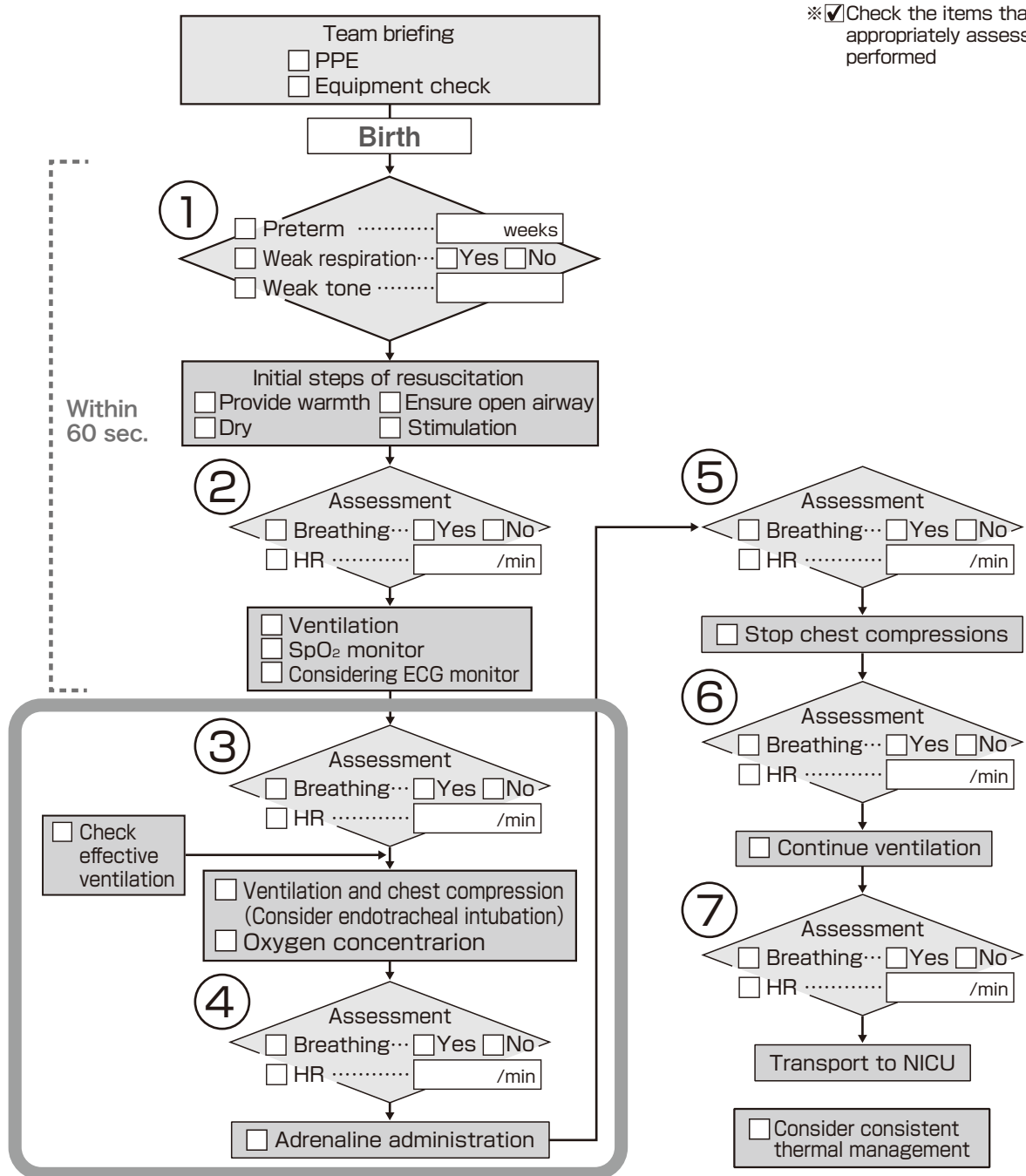
- ☐ Did you have a constructive decision making with all team member?
- ☐ Did you make another suggestion when the leader's instructions and opinions are conflict with yours?
- ☐ Did you communicate well with other team members during resuscitation?
- ☐ Did you help each other to solve issues in resuscitation?

The goals for the next time

NCPR S course scenario (medications)

NAME

TEAM



Check-points for better resuscitation

- ☐ Did you predict and prepare the next action during resuscitation?
- ☐ Did you complete your assigned roles appropriately under the leadership?
- ☐ Did you state your action clearly during resuscitation?
- ☐ Did you check and evaluate the resuscitation techniques each other?

The goals for the next time

NCPR S course scenario()

NAME

TEAM

※☒ Check the items that your team appropriately assessed and performed

