

# Frequently Asked Questions



## Practical Use of the RhinoChill™ IntraNasal Cooling System

### *When should cooling with the RhinoChill™ IntraNasal Cooling System be initiated?*

The 2008 ILCOR consensus statement regarding post-cardiac arrest care states that cooling should begin “*as soon as possible*” after cardiac arrest. The 2010 ERC & AHA guidelines continue to support this recommendation. The recommendation language has been updated to reflect numerous animal studies that indicate cooling prior to the return of spontaneous circulation helps reduce the neurological damage associated with reperfusion.

Cooling with the RhinoChill System should therefore be initiated as soon as possible during ongoing CPR after the patient’s airway is protected (LMA, or laryngeal tube will suffice).

### *How do I choose the flow setting?*

The Medium flow setting (40 L/min) is considered the nominal flow rate. The Low flow setting (20 L/min) should be used only after the patient has cooled to therapeutic temperatures and can be used to augment cooling while transitioning to standard cooling methods. The High flow setting (60 L/min) should be used only when there is an adequate gas supply and expedited cooling is desired.

Flow rates of 0.25 L/min/kg body weight (equivalent to 20 L/min) did not improve ROSC rates in a porcine model of prolonged VF, but flow rates of 0.5 L/min/kg (equivalent to 40 L/min) did. It is therefore recommended that flow rates of at least 40 L/min be used if cooling is begun prior to the patient achieving ROSC.

### *How long should I continue cooling with the RhinoChill System?*

Cooling with the RhinoChill System should continue until standard cooling methods have been implemented in the hospital setting. Additional supplemental cooling should be considered when the systemic cooling method employs a surface cooling device, because surface cooling devices redistribute warm blood from the periphery to the brain and heart that have been cooled by the RhinoChill System.

BeneChill

# Frequently Asked Questions



*Does the RhinoChill™ IntraNasal Cooling System come with a thermometer?*

No.

*How should I monitor patient temperature in the pre-hospital setting?*

Patient temperature should be monitored intermittently in the pre-hospital setting. Tympanic or esophageal thermometers are appropriate for use; a nasopharyngeal one is not.

The RhinoChill System cools the brain preferentially over the body, and the brain cannot be over-cooled. Temperature monitoring is used with other cooling systems to ensure the core temperature does not get too cold, as it is core temperature reduction that causes problems in cooling – not brain temperature reduction.

35 calories of heat are removed from the body for every ml of coolant that evaporates. Therefore, the approximate whole-body temperature reduction that a 1L bottle of coolant could achieve in a 70kg patient is 0.85°C.

*Will the patient shiver?*

The patient will begin to shiver only after the core temperature is significantly reduced. The patient would not be expected to begin shivering until after hospital admission unless a very long hospital transport time is required.

*How should I protect myself from contaminants (blood & mucus) spraying from the patient's nose?*

The patient's mouth and nose should not be covered when the RhinoChill System is being used in order for the evaporated coolant to escape. Therefore, personal protective measures should be taken to prevent cross-contamination.

*Can I maintain a target temperature using the RhinoChill System?*

It is technically possible to maintain target temperature with the RhinoChill System, but it is not recommended. The RhinoChill System has no temperature feedback control mechanism by which to control the amount of cooling that is delivered. It would therefore require intensive nursing efforts to turn the system off and on to maintain the target temperature in the narrow therapeutic range.

BeneChill

# Frequently Asked Questions



## *How are the tubing set and coolant bottles purchased?*

The RhinoChill™ Starter Set consists of one tubing set and one coolant bottle. This is the minimum amount required for each patient. Additional coolant bottles can be purchased in a 2-pack.

## *What do I do with a partially full RhinoChill™ IntraNasal System Coolant bottle?*

The RhinoChill System Coolant bottle should be used in one patient only. Using a single coolant bottle on more than one patient introduces the risk of cross contamination. Partially full coolant bottles should be incinerated by a licensed waste disposal organization at a site equipped with an after-burner and scrubber. Small quantities can be disposed in waste that is sent to an authorized landfill site. The RhinoChill System Coolant should not be discharged into drains. It is important to observe all national and regional regulations concerning waste disposal.

## *What if the RhinoChill System Control Unit needs to be repaired?*

You should report issues concerning the operation of the RhinoChill System directly to BeneChill International at: +41 21 566 52 70 or by contacting BeneChill through the website at [www.benechill.com](http://www.benechill.com).

## *Who can I call with questions after we begin using the RhinoChill System?*

You should contact BeneChill International directly or the authorized sales representative in your country with any questions you may have regarding the RhinoChill System.

## *Who can I speak with that has experience using the RhinoChill System?*

There are a number of physicians and emergency medical personnel that have used the RhinoChill System in sponsored clinical trials. BeneChill International will provide you with the contact information of someone you may speak to based on your geography.

BeneChill