

# 1. Introduction

Thank you very much for offering to do this survey.

This survey is endorsed by the:

Society of Cardiovascular Anesthesiologists  
American Society of Extracorporeal Technology  
American Academy of Cardiovascular Perfusion  
International Consortium for Evidence-Based Perfusion  
Canadian Society of Clinical Perfusion

The purpose of this survey is to assess the impact of the STS/SCA Transfusion Guidelines 2007. You can access the Guidelines at:

<http://www.sts.org/sections/aboutthesociety/practiceguidelines/bloodconservation/>

Your answers to this survey will only be used in aggregate to report the effectiveness of the Guidelines, in publication or presentation. No personal identifying information such as name or e-mail address is retained with the responses.

## 2. Demographics

\* 1. What is your Specialty?

Cardiac Surgery

Anesthesiology

Perfusion

I have another role

2. Do you have a clinical leadership role that may have enabled you to lead discussion of implementation of the Transfusion Guidelines?

Yes

No

\* 3. Are you a Trainee or have you finished your formal training?

Trainee

Completed training

\* 4. How many years have you been in clinical practice since the end of your training?

0-4 years

5-9 years

10-14 years

15-19 years

20 or more years

\* 5. Last calendar year, how many cardiac surgical cases do you personally perform?

<100

100-199

200-299

300 or more

\* 6. What sort of institution do you perform the majority of your cases in?

Academic, University affiliated institution

Non-academic institution with academic affiliation

Private institution without an academic affiliation

\* 7. How many on or off-pump, open chest, cardiac surgical cases did your institution perform in the last calendar year?

<200

200-399

400-599

600-799

800 or more

\* 8. What country and zip / postal code do you practice in?

ZIP/Postal Code:

Country:

9. Please provide two initials of your institution. We ask for this so that responses from more than one institution can be grouped together.

### 3. Did you read the Guidelines

\* 1. Did you personally read part or all of the published STS/SCA Transfusion Guidelines?

Yes, the entire Guidelines

Yes, but only a portion of the Guidelines

A summary of the Guidelines prepared by someone else

No

## 4. Institutional Discussion

\* 1. Was there a formal Institutional discussion that resulted from the guidelines?

Yes

Don't know

No

2. Who participated in the discussion? Check all that apply.

	Yes	No
Surgeons	<input type="checkbox"/>	<input type="checkbox"/>
Anesthesiologists	<input type="checkbox"/>	<input type="checkbox"/>
Perfusionists	<input type="checkbox"/>	<input type="checkbox"/>
Blood bankers	<input type="checkbox"/>	<input type="checkbox"/>
Nurses	<input type="checkbox"/>	<input type="checkbox"/>
Others	<input type="checkbox"/>	<input type="checkbox"/>

3. Were any changes in clinical practice implemented?

Yes

No

Don't know

## 5. Multi-disciplinary group

\* 1. Was an institutional multi-disciplinary group set up to monitor the effectiveness of the changes?

No

Yes

Don't know

2. Who were members of the group? Check all that apply.

	Yes	No
Surgeons	<input type="checkbox"/>	<input type="checkbox"/>
Anesthesiologists	<input type="checkbox"/>	<input type="checkbox"/>
Perfusionists	<input type="checkbox"/>	<input type="checkbox"/>
Blood bankers	<input type="checkbox"/>	<input type="checkbox"/>
Nurses	<input type="checkbox"/>	<input type="checkbox"/>
Others	<input type="checkbox"/>	<input type="checkbox"/>

## 6. Hemostasis assessment

Please answer regarding your Institutional practice.

Note:

Please answer "Already" if you were already performing the test

Please answer "New" if you stopped as a result of the guidelines.

Please answer "Unrelated" if you stopped, not as a result of the guidelines.

Please answer "No" if you were not performing the test

### \* 1. Was there a change in preoperative hemostatic assessment for cardiac surgery?

	Already	New	Unrelated	No
Routinely perform a screening preoperative bleeding time or equivalent test (e.g. PFA-100) in all patients.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Routinely perform a screening preoperative bleeding time or equivalent test (e.g. PFA-100) in patients who have received preoperative antiplatelet drugs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Routinely perform another laboratory screening assessment of platelet or hemostatic function (apart from PTT, INR and platelet count) in all patients	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## 7. Equipment and practice

Please answer regarding your Institutional practice.

Note:

Please answer "Already" if you were already doing this.

Please answer "New" if this was a change in practice resulting from the guidelines.

Please answer "Unrelated" if this was a change in practice not resulting from the guidelines.

Please answer "No" if you do not use the technology

### \* 1. Was there a change in the equipment or practices used for CPB?

	Already	New	Unrelated	No
Routine use of a heparin-coated or other surface-modified cardiopulmonary bypass circuit	ja	ja	ja	ja
Routine use of intraoperative red-cell saving	ja	ja	ja	ja
Routine use of leukocyte reduction filters in the CPB circuit.	ja	ja	ja	ja
Routine use of an open venous reservoir	ja	ja	ja	ja
Routine use of a closed venous reservoir	ja	ja	ja	ja
Routine use of a centrifugal pump	ja	ja	ja	ja
Routine use of acute normovolemic hemodilution	ja	ja	ja	ja
Routine use of lowered pump prime volume	ja	ja	ja	ja
Routine practice of retrograde autologous priming of the CPB circuit	ja	ja	ja	ja
Routine use of an intraoperative point-of-care hemostasis or platelet function test in all patients who are bleeding. Note: this does not refer to any measurement of ACT or heparin level.	ja	ja	ja	ja
Routine use of an intraoperative point-of-care hemostasis or platelet function test in all patients. Note: this does not refer to any measurement of ACT or heparin level.	ja	ja	ja	ja
Increased use of OPCAB surgery in order to decrease the need for transfusion	ja	ja	ja	ja
Routine use of heparin concentration monitoring in all cases	ja	ja	ja	ja
Routine use of increased heparin concentrations or ACT levels	ja	ja	ja	ja
Routine use of decreased heparin concentrations or ACT levels	ja	ja	ja	ja



## 8. You're almost done

That was the toughest page. You're almost done.

## 9. Red Cell Transfusion

Please remember, please answer regarding your Institutional practice

Note:

Please answer "Already" if you were already doing this.

Please answer "New" if this was a change in practice resulting from the guidelines.

Please answer "Unrelated" if this was a change in practice not resulting from the guidelines.

Please answer "No" if you do not use the technique

\* 1. Was there a change in your institutional red cell transfusion guidelines for cardiac surgery?

	Already	New	Unrelated	No
Reduced hematocrit or hemoglobin level cutoff for red cell transfusion	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Increased hematocrit or hemoglobin level cutoff for red cell transfusion	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Transfuse all patients with a hemoglobin <6g/dL at any stage of the hospital stay	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Transfuse all patients with a hemoglobin <7g/dL at any stage of the hospital stay	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

2. Does your institution routinely use leukoreduced red cell transfusion for cardiac surgery?

Always

Sometimes

Never

Don't know

3. Does your Institution routinely use leukoreduced coagulation factors and platelets for cardiac surgery?

Always

Sometimes

Never

Don't know

## 10. Aprotinin

Has your institution systematically examined the effect of Aprotinin withdrawal upon renal failure and mortality?

1. Has your institution systematically examined the effect of Aprotinin withdrawal upon renal failure and mortality?

Yes

No

Don't know

## 11. Systematic examination of NovoSeven

Please answer regarding your Institutional practice

1. Was there a change in your institutional transfusion guidelines for administration of Factor VIIa (NovoSeven) during cardiac surgery?

Note:

Please answer "Already" if you were already doing this.

Please answer "New" if this was a change in practice resulting from the guidelines.

Please answer "Unrelated" if this was a change in practice not resulting from the guidelines.

Please answer "No" if you do not use Factor VIIa

	Already	New	Unrelated	No
We use Factor VIIa as a rescue therapy in the setting of excessive, life-threatening bleeding that is unresponsive to routine therapy?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
We use Factor VIIa as a first-line therapy for bleeding	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. Has your institution systematically examined the effect of Factor VIIa (Novoseven) upon renal failure and mortality?

Yes

No

Don't know

## 12. NovoSeven assessment

### 1. What was the result of your Institutional assessment of NovoSeven use

- NovoSeven has never been available at my institution
- NovoSeven is no longer used at my institution
- NovoSeven use has been restricted by guidelines or other check-points
- NovoSeven use has no restriction on use

## 13. Pharmacology

Please answer regarding your Institutional practice.

Note:

Please answer "Already" if you were already doing this.

Please answer "New" if this was a change in practice resulting from the guidelines.

Please answer "Unrelated" if this was a change in practice not resulting from the guidelines.

Please answer "No" if you did not change your practice.

### \* 1. Was there a change in your institutional pharmacologic guidelines for cardiac surgery?

	Already	New	Unrelated	No
Routine use of EPO to improve the efficacy of autologous predonation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Routine use of EPO and iron in anemic patients undergoing elective surgery	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Routinely stop all oral antiplatelet agents (excluding aspirin) prior to elective surgery	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Routinely stop clopidogrel or ticlodipine for more than four days prior to elective surgery	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Routinely continue aspirin until immediately prior to surgery in all patients	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Routinely stop aspirin prior to elective surgery in patients without an acute coronary syndrome	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Routinely use DDAVP for bleeding	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Routinely use an antifibrinolytic such as Amicar or Transexamic acid	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Routinely use topical agents that employ bovine thrombin for hemostasis	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## 14. Other Institutional Practices

Please remember, please answer regarding your Institutional practice

Note:

Please answer "Already" if you were already doing this.

Please answer "New" if this was a change in practice resulting from the guidelines.

Please answer "Unrelated" if this was a change in practice not resulting from the guidelines.

Please answer "No" if you do not use the technology

### \* 1. Was there a change in other institutional practices for cardiac surgery?

	Already	New	Unrelated	No
Routinely transfuse all pump blood back to the patient, either directly or washed in a cell saver	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Routinely wash all shed mediastinal blood from postoperative chest tube drainage prior to reinfusion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### 2. Was there a change in other institutional practices for cardiac surgery?

	Already	New	Unrelated	No
No longer routinely use PEEP as a routine therapy for bleeding	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
No longer routinely use intraoperative platelet or plasmapheresis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
No longer routinely use direct reinfusion of unwashed shed mediastinal blood from postoperative chest tube drainage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## 15. Effectiveness

\* 1. Were the changes your institution made effective in reducing overall transfusion rates?

Highly

Somewhat

Not at all

Increased transfusion

I do not know

We did not measure this

2. In your personal opinion, were the changes embraced by your specialty, at your institution?

Highly

Somewhat

Not at all

3. In your personal opinion, were the changes embraced by other specialties, at your institution?

Highly

Somewhat

Not at all



## 16. Thank you

Thank you very much for your time and effort