The Society of Thoracic Surgeons
Data Managers' Electronic Abstract Submission Form

(Electronic Deadline: August 15, 2003, Midnight CDT)

ID# __06_____ (for internal STS use only)

1. **Authors' Information:** Please provide full name and title for each participating author.

Corresponding Author's Name: Wanda T. Garland
Author's Title: RN, BSN
E-mail address: wtgarland@novanthealth.org
Telephone #:
Fax #:

Senior Author's Name: Wanda T. Garland
Author's Title: RN, BSN

Author's Name: L. B. Sossoman
Author's Title: RN, BSN, ACNP

Author's Name: W. Patrick Burgess
Author's Title: MD, PhD

Author's Name: J. Clifton Hastings
Author's Title: MD

For additional authors please submit a second form.

2. **Institution(s) Information:** Please provide name of Institution(s).

Institution Name: Presbyterian Hospital
City and State of Institution: Charlotte, NC

Institution Name: _____
City and State of Institution: _____

Institution Name: _____
City and State of Institution: _____

For additional institutions please submit a second form.

3. **Title of Abstract:**

Title: Provide the title of the abstract. Please provide a short and specific title which indicates the nature of the study. Please use the following formatting guidelines; title case, no periods, no abbreviations. Example: This is a Properly Formatted Title

Impacting Post-Operative Renal Failure: A Team Approach

4. Abstracts are limited to 250 words and must be typed and electronically submitted. The 250 limit does not include the title of the abstract or the author(s) name or title(s).

I. **Background:** A brief statement of the purpose of the study and the current state of research in the field.

Our Best Practice Team (BPT) identified post-operative renal failure as one of the most prevalent complications in our cardiac surgery patients. Our renal failure rate post-op was 10.4%, compared with National STS renal failure rate of 3.5% for 2001. Current literature identifies acute renal failure (ARF) as an independent marker of mortality in Coronary Artery Bypass Grafts (CABG). The team's initial goal was to reduce incidence of renal failure by 50% by implementing a risk stratification algorithm.

II. **Methods or Study Population:** The methods of study or experimental approach clearly, but briefly, defined.

Through rapid cycle improvement methodology, the BPT simultaneously examined volume status, blood pressure parameters, and urine alkalination for impact on prevention of renal failure.
A team of cardiovascular surgeons, nephrologists, cardiologists, and nursing personnel modified a protocol from Chertow (2000), for identifying high-risk patients. Preventive and support protocols were developed. A NaHCO3 drip was recommended to increase urine pH peri-operatively. Blood pressure parameters were established. Fenoldopam is utilized to promote renal artery vasodilation.

III. **Results:** A summary of the results of the study, including sufficient details to support the conclusions made. To summarize results you may include one table (not to exceed 10 columns, 10 rows), or one graph, or one illustration (jpg file not to exceed 4" x 3" at 300 dpi).

Review of the 2002 renal failure cases revealed that 52% of those developing post-op ARF would have been classified as high risk. Since the project began, we have more than doubled the use of NaHCO3 drips and increased use of fenoldopam by 15%. The post-operative renal failure rate has decreased from 10.8% in January, to 4.1% in June, meeting our goal and bringing us more in line with the STS benchmark of 3.5%. No complications of ARF were noted for the month of May.

IV. **Conclusion:** A statement concerning the significance of the work and its implications for further research.

Use of a risk stratification algorithm and renal protocol with cardiac surgery patients has been beneficial in significantly reducing the incidence of post-op renal failure in our facility. Ongoing monitoring will be conducted to evaluate sustained results over time.

RENAL FAILURE RISK PROFILE

Patient Name:_____ Birthday:_____ AGE: _____

Most recent lab values

Weight: _____(lbs.) **SEX: M or F** **Serum Cr(mg/l): _____ _____ _____**

_____(KG.) Date: _____ _____ _____

Est. Cr Clearance = **[140 – AGE] x WT(KG.) x { 1 for male or 0.85 for female}**
72 x [Cr]

Usual BP(from patient or family): _____/_____

BP from cath lab: _____/_____

Est. Cr Clearance = _____ cc/min

Minimum BP Goals for standing orders: _____/_____

Maximum BP Goals for standing orders:_____/_____
(consider ˜ 25 mmHg above or below usual BP)

Urine output Minimum Goal > ____cc/hr (0.5 cc/KG/hour) (at least 30 cc/hr)

Institute High Risk Renal Failure Prevention Orders if any one of the following is found:

1) **Cr = 3.0mg/dl [non-diabetic] OR Cr = 1.5mg/dl [diabetic patients]**

2) **Cr has increased in the past 24 hours (or less) by = 0.5mg/dl or UOP is very low at beginning of surgery**

3) **If 'Renal Risk Score' Total > 10** *[possible ARF]*

Renal Risk Scoring System

Estimated Cr. Clearance < 40 cc/min…….	[9] _____
Estimated Cr. Clearance 40 to 59 cc/min……	[5] _____
Estimated Cr. Clearance 60 to 79 cc/min……	[3] _____
Estimated Cr. Clearance 80 to 99 cc/min……	[2] _____
Intra-Aortic Balloon Pump prior to surgery……	[5] _____
Systolic BP > 160 with CABG……..	[3] _____
Systolic BP < 120 with valve surgery…….	[2] _____
Valvular surgery (if Valvular Surgery combined with CABG, use **6**)…….	[3] _____
Prior heart surgery (any type)……..	[3] _____
NYHA Class IV Functional State……	[3] _____
Peripheral vascular disease (ANY type: carotid, renal, aorta, leg, etc)……	[2] _____
Ejection fraction < 35%……	[2] _____
Pulmonary Rales …….	[2] _____
Chronic Obstructive Pulmonary Disease (ANY type: even mild disease)……	[2] _____
Diabetes Mellitus (Type 1 or 2)……..	[3] _____

'Renal Risk Score' TOTAL = ☐

Version
2/11/2003

Low Risk 0 – 5
Medium Risk 6 – 10
High Risk 11 - 15
Very High Risk > 16

_____

NAME *DATE*