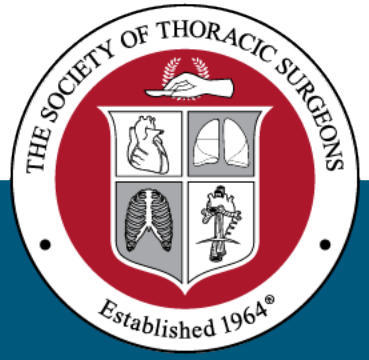
Society of Thoracic Surgeons

Intermacs/Pedimacs
User Group Webinar

April 28, 2021



STS National Database™
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The Intermacs Data Warehouse Team

Patricia Potter: Intermacs Data Warehouse Quality RN

Jeanne Anne Love: Intermacs Data Warehouse, Patient Management Director and Data Quality advisor

Ryan Cantor, PhD, Statistician, Director of Reporting, Intermacs DCC

Rama Rudraraju, PhD, Director of Programming

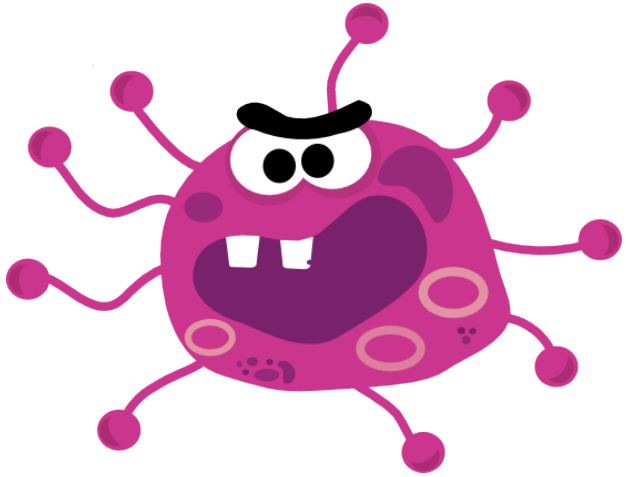
Maceo Cleggett: Clinical Data Analyst, Intermacs DCC

Devin Koehl: Senior Clinical Data Analyst, Intermacs/Pedimacs DCC

John Pennington: Senior Data Manager, Intermacs DCC

Intermacs Monthly Webinar

- Welcome and Introductions
- STS Update
- AQO Abstract Submission
- User Feedback



Covid -19 Update

- Tele visits encouraged
- QOL surveys may been done over the phone or by mail
- If follow-up visits are done outside of the visit window, please enter the last date of the follow-up date visit into the database
- **Sites have 30 days after the follow-up window due date to enter the data for the C-19 exception**

Contact Information

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- pkpotter@uabmc.edu

Database Operational Questions

- intermacsfaq@sts.org

Resources

- STS National Database Webpage
- Intermacs and Pedimacs Webpage (All things Intermacs and Pedimacs, Database user guides, Data collection forms, QOL surveys, FAQs, V 6 Training Video, Research opportunities)
- Intermacs-reports@uabmc.edu (Reporting questions, Uploader, DQR, Missing Variable, Dashboard, Password and Login)
- Updated Participant Contact Form
- DQ Report Validation Form

Upcoming Intermacs Webinars

User Group Webinar

- May 26 @ 1pm CT

Reporting Webinar

- July 15 @ 2pm CT

Open Discussion

Please use the Q&A Function.

We will answer as many questions as possible.

We encourage your feedback and want to hear from you!

WRITING A SUCCESSFUL ABSTRACT

Sylvia M. Laudun, DNP, MBA, RN, CPHQ

Why Are You Writing an Abstract?

Change clinical practice

Showcase new knowledge

Telling your story

Abstract Structure

Section	Information
Title	Clearly identify the topic, disease, or condition. Make the reader want to read your abstract.
Background (Introduction)	A brief statement of the study's purpose and current state of research in the field. Why did you start the project? What did you hope to learn or discover?
Methods or Study Population	Clearly and briefly define methods of the study. Define who was involved. How did you conduct the project? When and where did you conduct the project? What statistical tests, tools, or equipment did you use?
Results	Summary of the study results. You may include one table, one graph, or one illustration. Present you findings without interpretation. What did you discover with your project?
Conclusion	A statement concerning the scientific relevance of the project and its implications for further research. Interpret your results, relating them back to the Background and/or hypothesis.

Title

Reducing Unplanned Extubation: A Quality Improvement Project

- Not descriptive – does not provide enough information

Getting to Zero: Eliminating Unplanned Extubation in the Pediatric Intensive Care Unit

- Descriptive – provides enough information

Five-Year Review of the Post Left Ventricular Assist Device Outcomes in Relation to Body Mass Index

Ochsner Health System

Five-year Review of Post Left Ventricular Assist Device Outcomes in Relation to Body Mass Index

Sylvia M. Laudun, DNP, MBA, RN, CPHQ, P. Eugene Parrino, MD, Michael J. Bates, MD, Sapna V. Desai, MD, Aditya Bansal, MD
Ochsner Medical Center, New Orleans, LA

Introduction

- Obesity is discussed using the patient's current body mass index (BMI) during screening for bridge to transplant (BTT) and destination therapy (DT) for left ventricular assist device (LVAD) implantation
- Medical community assumes patients with BMIs >35 are at an increased risk for complications post device implantation

Project Purpose:
To analyze the relationship of pre-operative BMI on post-operative outcomes during 12-month follow-up at a large transplant center

Methods

Design: Retrospective review
Included: Primary implantation of LVAD between October 2010 to September 2016 (n=182), with a 12-month follow-up review
Excluded: Pediatric patients; LVAD exchange patients
Data Source: INTERMACS, Society of Thoracic Surgeons Adult Cardiac database, and implanting institution's electronic medical record
Data Collection:
•BMI, demographics, post-operative and post-discharge outcomes
•Patients were grouped according to their pre-operative BMI classification defined by the World Health Organization:
- ✓ underweight (<18.5)
- ✓ normal weight (18.5-24.9)
- ✓ overweight (25.0-29.9)
- ✓ obesity-class 1 (30.0-34.9)
- ✓ obesity-class 2 (35.0-39.9)
- ✓ severe obesity-class 3 (≥40.0)

Statistical analysis: Chi-square test for post-operative outcome and Kaplan Meier for survival rates

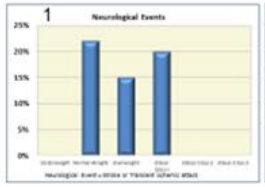
Demographic Data:

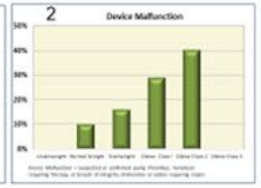
Parameter	Underweight	Normal Weight	Overweight	Obese Class 1	Obese Class 2	Obese Class 3	Total
n	2	51	67	45	15	2	182
BMI, median	17.2	22.7	27.6	32.2	36.5	38.5	28.0
Age, yr median	50.5	55.0	57.0	54.0	43.0	38.5	55
Male (%)	1 (50%)	39 (76%)	52 (78%)	27 (60%)	9 (60%)	0 (0%)	128 (70%)
Race (%)							
White	1 (50%)	32 (63%)	34 (51%)	24 (53%)	8 (53%)	0 (0%)	99 (54%)
Black	1 (50%)	18 (35%)	33 (49%)	21 (47%)	7 (47%)	2 (100%)	82 (45%)
Other	0 (0%)	1 (2%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (1%)
Device Type (%)							
HeartMate II	1 (50%)	41 (80%)	61 (91%)	41 (91%)	11 (73%)	2 (100%)	157 (86%)
Heartware	1 (50%)	9 (18%)	6 (9%)	3 (7%)	4 (27%)	0 (0%)	23 (13%)
Syncardia	0 (0%)	1 (2%)	0 (0%)	1 (2%)	0 (0%)	0 (0%)	2 (1%)
Initial VAD Indication (%)							
BTT	0 (0%)	22 (43%)	35 (52%)	24 (53%)	8 (53%)	1 (50%)	90 (49%)
DT	2 (100%)	29 (57%)	32 (48%)	21 (47%)	7 (47%)	1 (50%)	92 (51%)
Diabetes	0 (0%)	18 (35%)	27 (40%)	25 (56%)	11 (73%)	2 (100%)	83 (46%)
Pre-op A1C% (median)	6.3	6.0	6.0	6.2	6.5	7.2	6.5
Pre-op Creatinine (mg/DL)	1.5	1.2	1.2	1.2	1.4	1.3	1.2

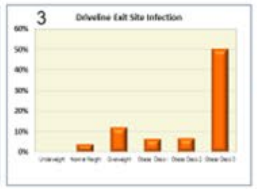
Inpatient Outcomes:

Parameter	Underweight	Normal Weight	Overweight	Obese Class I	Obese Class 2	Obese Class 3
n	2	51	67	45	15	2
Initial Intubation Days, median	6.3	2.8	1.9	3	1.3	6.7
Total ICU Days, median	26	11	9	9	6	16
Total LOS	30	26	22	21	17	37
Renal Failure*	1 (50%)	13 (25%)	11 (16%)	8 (18%)	2 (15%)	1 (50%)
Re-Operation for Bleeding	1(50%)	13 (25%)	15 (22%)	8 (18%)	1 (7%)	0 (0%)
Timing: Acute**	1(50%)	6 (12%)	6 (9%)	3 (7%)	0 (0%)	0 (0%)

ICU = Intensive Care Unit; LOS = Length of Stay; *Renal failure requiring dialysis or CRRT as inpatient; **Re-Operation for bleeding within 24 hours of the end of the case



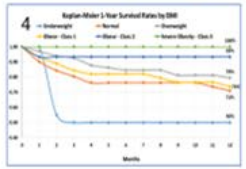


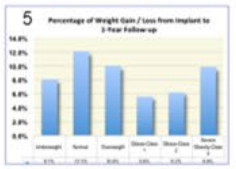


Results

1. Highest percentage of neurological events, 22% was in normal weight patients (n=51)
2. Highest percentage of device malfunction, 40% was in obese-class 2 patients (n=15)
3. All classes had a rate of 12% or less for driveline exit site infections, except obese-class 3 (n=2) with 50%
4. 1-year survival for normal weight patients was 71%, while obese-class 2 and obese-class 3 were 93% and 100% respectively
5. All BMI classifications demonstrated a median weight gain range of 5.6%-12.1% at 12-month follow-up
6. 22% of normal weight patients (n=51) went on to heart transplantation, while only 7% from obese-class 2, and 0% from obese-class 3

Comparisons were made using chi-square test for post-operative outcome but did not determine a level of significance (p>0.05) among the BMI cohort.





Conclusions

- No significant relationship between pre-operative BMI and postoperative outcomes (p>0.05) during 12-month follow-up was identified in this cohort
- Common myth that obese LVAD patients demonstrate worse outcomes was not validated from our experience
- Limitations: Retrospective review from single center; less than 1% of cohort in underweight and severe obesity-class 3 groups
- Recommendations: Multi-center studies are needed to follow longitudinal outcomes in the LVAD population

Disclosures
A. Bansal: Consultant/Advisory Board, Abbott, ABIOMED, Tandem Life; Speakers Bureau/Honoraria, Abbott, Tandem Life
S. V. Desai: Consultant/Advisory Board, Abbott; Speakers Bureau/Honoraria, Abbott

THE SOCIETY OF THORACIC SURGEONS Established 1964

Background or Introduction

- **Briefly stats the context of your study by identifying the problem**
- **Includes a clear statement of the hypothesis**

Example:

Assumption in the medical community is that patients with a higher BMI are at an increased risk for complications post device implantation. Purpose of this study was to analyze outcomes by grouping patients using BMI at a single center transplant institution.

Developing Your Clinical Question Using PICO(T)

P = Patient / Population

I = Intervention

C = Comparison

O = Outcomes

T = Timeframe

For an intervention/therapy:

- In _____(P), what is the effect of _____(I) on _____(O) compared with _____(C) within _____ (T)?

For etiology:

- Are ____ (P) who have _____ (I) at ___ (increased/decreased) risk for/of_____ (O) compared with _____ (P) with/without _____ (C) over _____ (T)?

Prognosis/Predictions

- Does _____ (I) influence _____ (O) in patients who have _____ (P) over _____ (T)?

PICO(T) and Clinical Questions - Evidence Based Nursing Practice - Library Guides at University of Missouri Libraries

Methods or Study Population

- **Provides the details necessary for another researcher to replicate your research.**

Example:

Retrospective review of data was done utilizing INTERMACS registry, and the implanting institution's EMR after obtaining IRB approval from October 2010-September 2016. Data abstraction was limited to implantation of primary LVAD patients greater than 18 years of age and who completed 12 month follow up. A total of 182 primary implants were included for this study. Patients were grouped according their pre-operative BMI into six categories: underweight (< 18.5); normal weight (BMI 18.5 to 24.9); overweight (BMI 25.0 to 29.9); obese – Class 1 (BMI 30 to 34.9); obese – Class 2 (BMI 35 to 39.9); and severe obesity – Class 3 (40 ≤ BMI).

Method

- **Retrospective review**
- **INTERMACS registry and institution's EMR**
- **October 2010- September 2016**
- **implantation of primary LVAD patients greater than 18 years of age and who completed 12 month follow up**
- **total of 182 primary implants**
- **pre-operative BMI**

Results

- **Presents the results of the research without interpreting their meaning.**

Example:

Normal weight patient (n=51) experienced the highest percentage of mortality of 27% (at 12 months) and neurological events of 22%. Overweight patient (n=67) had the highest percentage of driveline infections 12%. Obese-class 2 patients (n=15) did have the highest percentage of device malfunction 40%. In our study none of these findings achieved statistical significance ($p<0.05$).

Table

- **Not to exceed 10 columns, or 10 rows**

Inpatient Outcomes:

Parameter	Underweight	Normal Weight	Overweight	Obese Class I	Obese Class 2	Obese Class 3
n	2	51	67	45	15	2
Initial Intubation Days, median	6.3	2.8	1.9	3	1.3	6.7
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Total LOS	30	26	22	21	17	37
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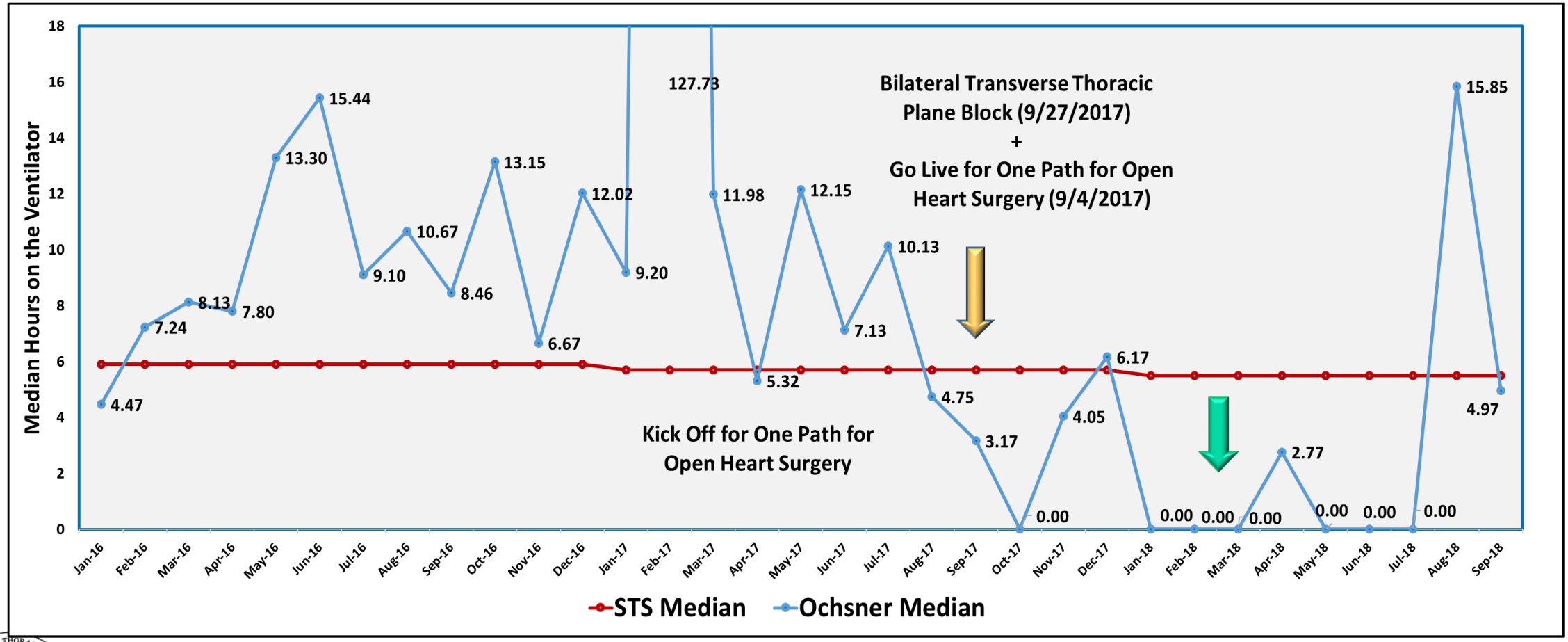
Re-Operation for Bleeding	1(50%)	13 (25%)	15 (22%)	8 (18%)	1 (7%)	0 (0%)
Timing: Acute**	1(50%)	6 (12%)	6 (9%)	3 (7%)	0 (0%)	0 (0%)

ICU = Intensive Care Unit; LOS = Length of Stay; *Renal failure requiring dialysis or CRRT as inpatient; **Re-Operation for bleeding within 24 hours of the end of the case

Graph

Total Ventilator Hours (Median) for Isolated CABG: 2016 – 2018 Q3



Illustration

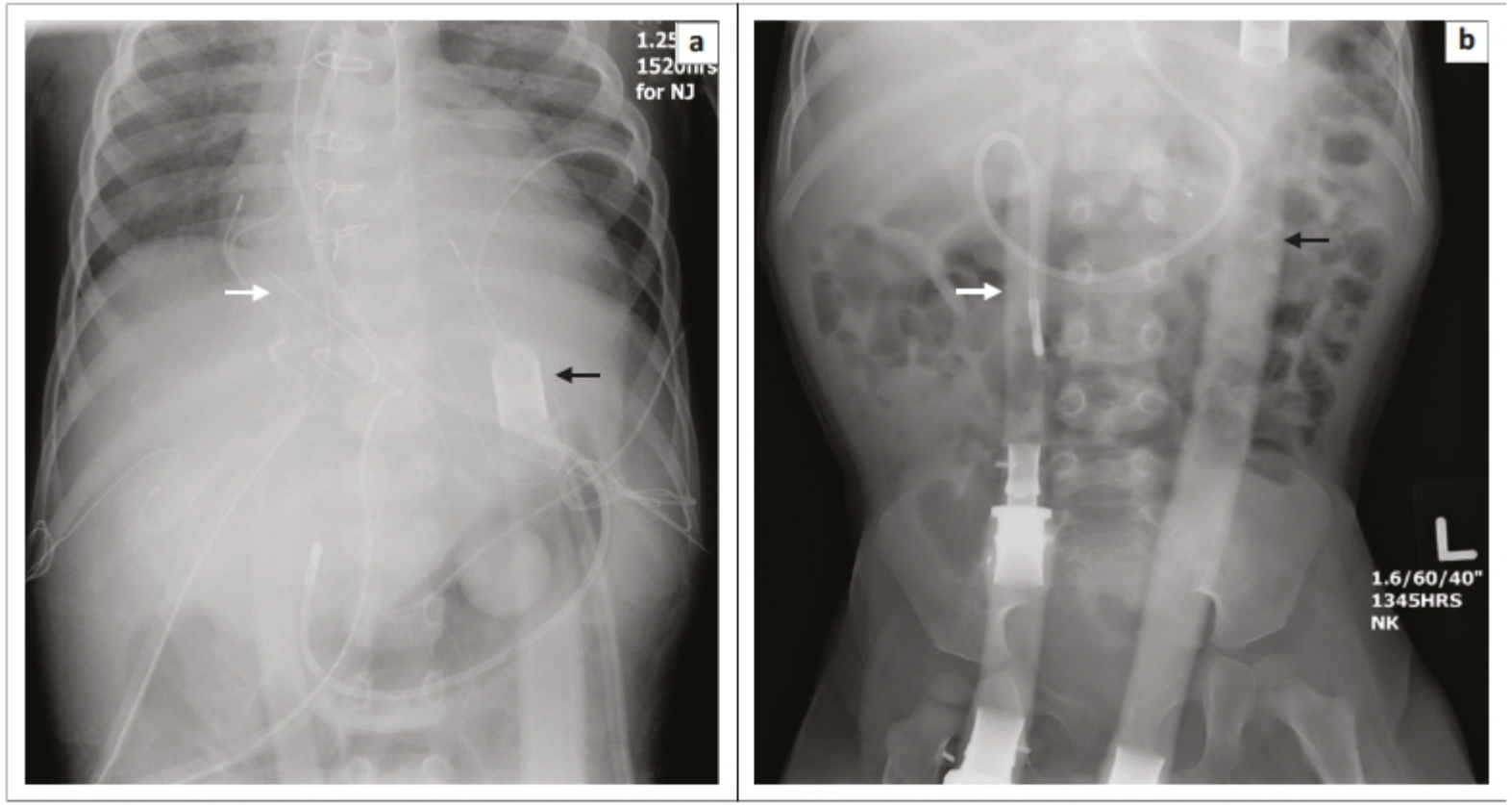


FIGURE 5: Chest (a) and abdominal (b) radiographs showing a Berlin Heart left ventricular assist device with its inflow (black arrow) and outflow (white arrow) cannulae implanted in the left ventricle and aorta, respectively, in a 2.5-year-old male child with severe left ventricular dysfunction following an episode of myocarditis.

Conclusion

- Interpret your results and relate them back to the objectives and information presented in the Background.

Example:

Common myth in the medical community about obesity is not validated from our experience. However, interesting findings from our study reveal that there is a trend for increased device malfunction in obese individuals. The draw backs of this study include retrospective nature, single center, and low volumes in underweight and severe obesity group. Multi institutional studies are needed to address this important issues in the VAD community.

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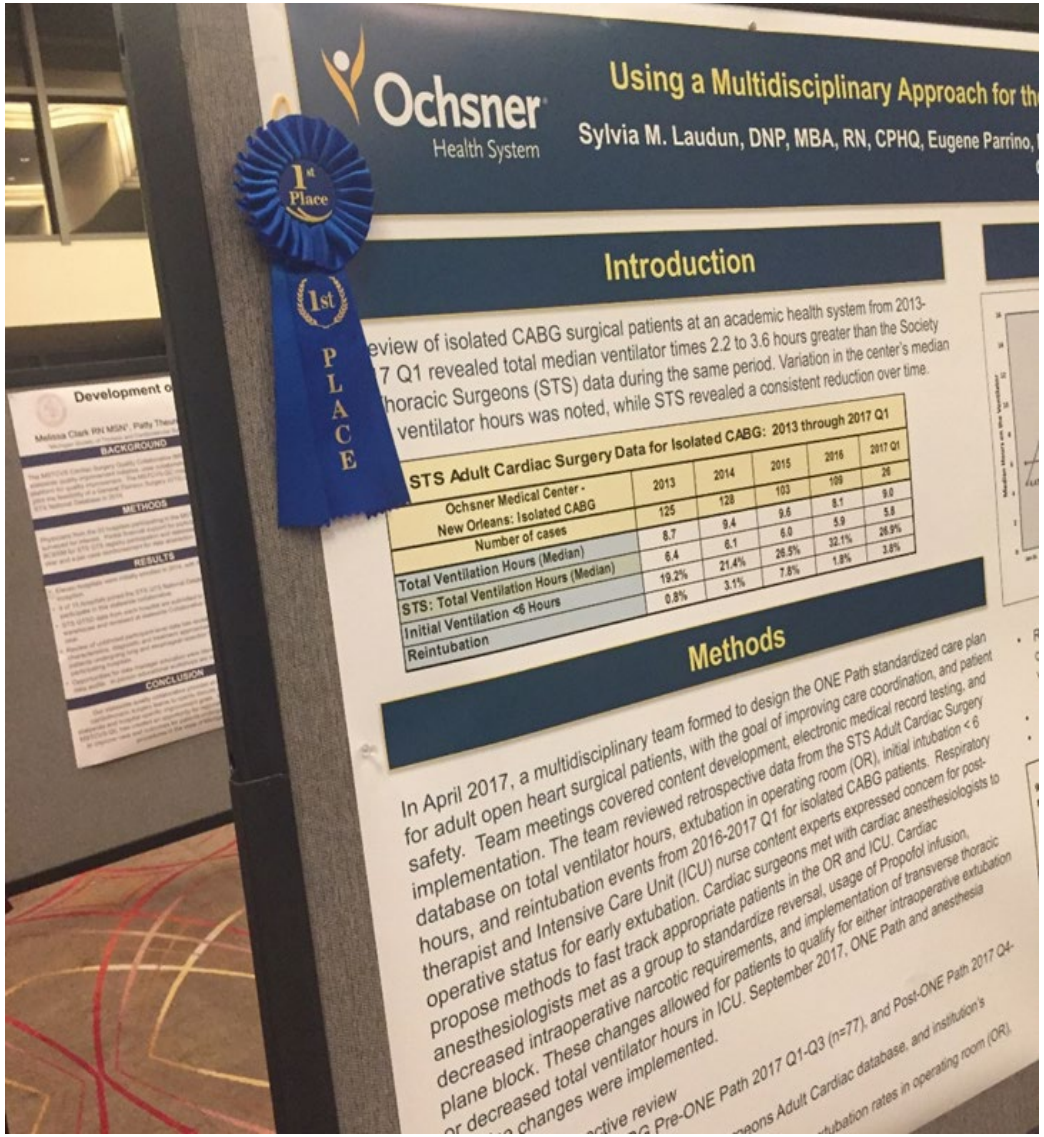
- Limitations: Retrospective review from single center; less than 1% of cohort in underweight and severe obesity-class 3 groups
- Recommendations: Multi-center studies are needed to follow longitudinal outcomes in the LVAD population

Follow the Guidelines

- **Spell it out!!**
  - "**body mass index** (BMI) during screening for **bridge to transplant** (BTT) and **destination therapy** (DT) for **left ventricular assist device** (LVAD) implantation."
- **Provide authors' names, titles, and name(s) of the authors' institution(s).**
- **Limit to 250 words**
  - **250 words do not include title, names of authors, or headings.**
- **Disclosure Form – all authors listed on the abstract are required to submit a Disclosure Form.**



Using a Multidisciplinary Approach for the Reduction of Ventilator Hours in Coronary Artery Bypass Graft (CABG)

Outstanding Poster
STS Data Manager Conference, September 26-28, 2018

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