ASTS TRANSQIP Beta Phase Informational Webinar

December 2, 2016

Ryutaro Hirose, MD

Stuart Greenstein, MD

ASTS
American Society of Transplant Surgeons

TransQIP

- A collaborative effort between ASTS and the American College of Surgeons
- A National Transplant Quality Improvement Program

ASTS
American Society of Transplant Surgeons

TransQIP

- A need for a National Transplant Quality Improvement Program?
- SRTR focuses on graft and patient survival
- No accurate national data on post transplant surgical complications and other outcomes
- CMS mandates ALL transplant centers to maintain a Quality Assessment/Performance Improvement (QAPI) program

ASTS
American Society of Transplant Surgeons

Institution: CMS Transplant CoP - QAPI

- Patient safety, clinical care
- Methods for conducting analyses
- Identification of quality issues
- System for monitoring care and services
- Systematic analysis and systemic action
- Monitoring performance improvements

ASTS
American Society of Transplant Surgeons

Institution/Providers: CMS – PQRS → MIPS

- Partner with ACS
- Qualified Registry (QCDR)
- MIPS = incorporates MU, PQRS, VBM
  - **QUALITY (50-60%) (PQRS)**
  - Advancing care information (25%, ACI = MU)
  - Clinical Practice Improvement Activities (CPIA, 15%)
  - Resource use (0-10%)

ASTS
American Society of Transplant Surgeons

ABS MOC Requirements

- Evaluating performance in practice
- Ongoing participation in a local/regional/national outcomes registry or QA program, either individually or through your institution
- Currently, OPTN/SRTR involvement qualifies
- MANY ACS NSQIP/traumaQIP/PedsQIP
- BUT: Surgeon specific outcomes

ASTS
American Society of Transplant Surgeons

ASTS Standards and Quality Committee

- July 2012 - Initiated contact with ACS to create a National Transplant QI program
- ASTS Council approved joint initiative
- November 2013 – First In-Person Meeting at ACS to establish TransQIP
- 2014-2015 ACS/ASTS TransQIP steering committee
  - Defined procedures to be monitored
  - Defined variables and outcomes
  - Determined centers to participate in alpha phase
- 2016 – TransQIP Alpha Phase – 8 transplant centers

ASTS
American Society of Transplant Surgeons

TransQIP

- Quality improvement program to track outcomes related to adult liver and kidney transplants
- Builds upon NSQIP model of ACS infrastructure
  - Employs trained Surgical Case Reviewers (SCRs)
- Variables, outcomes and definitions all defined by the ASTS TransQIP steering committee (us)

ASTS
American Society of Transplant Surgeons

Development of TransQIP

- Definition of procedures captured:
  - Kidney transplant (deceased and live donor)
  - Liver transplant (deceased and live donor)
  - Donor nephrectomy
  - Donor hepatectomy
- ALL (100%) such procedures in adults (>18 years of age) – not a sample
- Not included (yet)
  - Pediatric transplant
  - Multiorgan txp (SLK, SPK)
  - Pancreas transplant

ASTS
American Society of Transplant Surgeons

Variables

- Use UNOS required data variables
- Definitions – use ACS and UNOS options where applicable
- Comprehensive list of variables
- Effort to become more parsimonious with variables

ASTS
American Society of Transplant Surgeons

Variable List

- Kidney Deceased donor
- Liver Deceased donor
- Kidney live donor
- Liver live donor
- Kidney recipient
- Liver recipient

ASTS
American Society of Transplant Surgeons

Kidney and Liver Deceased Donor Variables

- Available from Donor Net
- All variables are currently required by UNOS to be submitted by OPOs
- Demographics
  - Donor age, ethnicity, gender
- Donor data
  - Date of admission, ht, wt, COD, DCD
    - DCD time of withdrawal, 80/80, declaration, flush
  - Hx of hypertension and duration, DM
  - PHS increased risk
  - Donor labs (terminal), HCV, biopsy results
  - Cross clamp time

ASTS
American Society of Transplant Surgeons

Kidney Living Donor Variables

- Demographics – all UNOS variables
  - DOB, gender, ethnicity, highest education, employment, insurance
- Preop
  - Ht, wt, functional status, currently smoking, HTN, hx of hyperglycemia, hx of DVT/PE, prior operations
  - Labs
- Operative
  - Surgeon
  - Length of operation, anticoag, # of arteries, veins

ASTS
American Society of Transplant Surgeons

Kidney Living Donor – Postop

- Transfusion intra/post op
- Superficial and Deep SSI (NSQIP definition)
- Pneumonia
- PE, on Vent >48 hrs, UTI, ICU days
- Hospital LOS, readmission, incisional hernia
- Lab values at 30 days

ASTS
American Society of Transplant Surgeons

Superficial SSI Definition

- **Definition:** Superficial incisional SSI is an infection that involves only skin or subcutaneous tissue of the surgical incision.
- **Criteria:** An infection that occurs within 30 days after the organ donation **AND** the infection involves only skin or subcutaneous tissue of the incision **AND** at least **ONE** of the following:
- A. Purulent drainage, with or without laboratory confirmation, from the superficial incision
- B. Organisms isolated from an aseptically obtained culture of fluid or tissue from the superficial incision
- C. Superficial incision is deliberately opened by the surgeon (see note below)
  - **AND**
  - At least one of the following signs or symptoms of infection:
- pain or tenderness
- localized swelling
- redness
- heat

  If the patient meets criterion C and the surgical incision is cultured, a negative culture result would exclude the assignment of Superficial SSI based on criterion C only.
- **NOTE**: Please also refer to Appendix H. Superficial Incisional SSI Algorithm for additional guidance in assigning a Superficial SSI to a case utilizing criterion C.
- D. Diagnosis of superficial incisional SSI by the surgeon or attending physician

ASTS
American Society of Transplant Surgeons

Kidney Recipient Variables

- UNOS TCR, TRR
- Smoker/HTN/DM
- LVEF by Echo
- Cardiac revasc, previous vasc procedures
- Hypercoag state, anticoags, labs
- Operative variables
  - First assistant
  - Anesthesia
  - Length of operation
  - +/- ureteral stent
  - # of arteries, reconstruction

ASTS
American Society of Transplant Surgeons

Diabetes (Definition)

- **Definition:** Diabetes mellitus is a metabolic disorder of the pancreas whereby the individual requires careful monitoring of diet or *regular* dosages of exogenous parenteral insulin or a non-insulin anti-diabetic agent to prevent hyperglycemia/metabolic acidosis.

- **Criteria:** History of diabetes requiring oral non insulin agents or insulin if yes, identify the year of onset of diabetes requiring therapy as identified on the medical record. Diabetes controlled by diet alone or diagnosis of gestational diabetes does not meet criteria.

ASTS
American Society of Transplant Surgeons

Kidney Transplant Recipient Outcomes

- Superficial/deep SSI, organ space infection
- Pneumonia, PE, DVT, Vent >48 hours
- Transfusions
- MI, sepsis
- UTI
- Arterial/venous stenosis/thrombosis req Rx
- Ureteral stenosis/stricture req intervention
- Ureteral leak req intervention
- Lymphocele/fluid collection req intervention
- Discharge location, LOS, ICU days.
- Readmission, unplanned operation
- Lab values at 30 days (calculate eGFR)

ASTS
American Society of Transplant Surgeons

Liver Recipient Variables

- Demographics
- Preop data
  - BMI, functional status, smoking, HTN, DM
  - LVEF, cardiac revascularization
  - TIPS/previous abdominal operation
  - PVT/anticoag
  - Intubated/dialysis
  - Labs/MELD score
- Operative data
  - Surgeon, Staff, length of case, ischemic times

ASTS
American Society of Transplant Surgeons

Liver Recipient Variables

- UNOS TCR, TRR
- Smoker/HTN/DM
- LVEF by Echo
- labs
- Operative variables
  - First assistant
  - Anesthesia
  - Length of operation
  - Reconstruction

ASTS
American Society of Transplant Surgeons

Occurrences/Outcomes

- General
  - Superficial/deep SSI
  - Pneumonia/DVT/PE/MI/Vent >48 hrs/UTI/sepsis
  - Transfusions, unplanned reoperations
  - Discharge destination, LOS
  - Readmits, hospital days in first 365 days
- Liver txp specific
  - PVT/HAT
  - Biliary complications
  - labs

ASTS
American Society of Transplant Surgeons

Outcomes

- Defined at and measured at 30, 90, and 365 days post transplant.
- Common post surgical events, e.g. SSI/pneumonia/MI/DVT or PE
  - Current ACS/NSQIP definitions utilized
- Transplant and organ specific outcomes

ASTS
American Society of Transplant Surgeons

Surgical Outcomes

- General postoperative events
  - SSI
  - DVT/PE
  - Pneumonia
  - Readmissions, HD in first 30/90/365 days
- Transplant specific
  - Vascular thromboses
  - Ureteral complications
  - Bile duct complications
  - eGFR at 30/90/365 days post renal txp

ASTS
American Society of Transplant Surgeons

TransQIP Alpha Phase

- Initially limited to hospitals currently enrolled in NSQIP
- Alpha phase: data collection began June 2016

ASTS
American Society of Transplant Surgeons

TransQIP Beta Phase

- NSQIP hospital
- Resources/commitment
- Surgical case reviewer
  - Trained on platform
  - Capture every transplant case
- Surgical champion

ASTS
American Society of Transplant Surgeons

TransQIP Alpha Pilot : Descriptive Statistics & Summary of Data

For Beta Pilot Webinar
December 2nd, 2016

Basics

N = 606 cases entered into the Workstation as of 11/30/16.

One case means a paired donor and recipient.

- **436 Kidney cases**
- **170 Liver cases**

- **452 Deceased donors**
- **154 Living donors**

Organ	Deceased	Living
Kidney	298	138
Liver	154	16

By Site

8 Alpha Pilot sites have collected 6 months worth of data.

Site	Kidney Cases, N(% of total kidney cases)	Liver Cases, N(% of total liver cases)	Total Cases, N(% of total cases)
1	121 (27.75)	58 (34.12)	179 (29.54)
2	96 (22.02)	21 (12.35)	117 (19.31)
3	50 (11.47)	43 (25.29)	93 (15.34)
4	65 (14.91)	0 (0)	65 (10.73)
5	35 (8.03)	19 (11.18)	54 (8.91)
6	24 (5.50)	13 (7.65)	37 (6.11)
7	19 (4.36)	16 (9.41)	35 (5.77)
8	26 (5.96)	0 (0)	26 (4.29)

Kidney Demographics

N = 436 Cases

Gender	Donor	Recipient
Female	199	166
Male	231	260

Race/Ethnicity	Donor	Recipient
American Indian or Alaska Native	7	1
Asian	18	42
Black or African American	49	112
Hispanic/Latino	70	74
Native Hawaiian or other Pacific Islander	3	5
Unknown/Not Reported	1	6
White	280	179

Kidney Demographics

N = 436 Cases

Status	Donor
Deceased	298
Living	138

Insurance Status	Donor*	Recipient
Department of VA	2	1
Government Sponsored	16	252
Other	1	.
Self-Pay	.	1
Private	83	156
Uninsured/Donation/Charity	2	1
Unknown	24	1

* Only asked of Living Donors

Employment Status	Donor*	Recipient
Employed	70	104
Unemployed	19	169
Unknown	4	2

Kidney Pre-operative Risk Factors

N = 436 Cases

Smoker	Donor*	Recipient
No	118	367
Yes	12	23

* Only asked of Living Donors

Functional Health Status	Donor*	Recipient
10%	.	1
20%	.	2
30%	.	.
40%	.	.
50%	.	21
60%	.	61
70%	.	88
80%	1	103
90%	.	83
100%	117	28

Kidney Pre-operative Risk Factors

N = 436 Cases

Hypertension	Living Donor	Deceased Donor	Recipient
No	123	226	20
Yes, 0-5 years	2	33	47
Yes, 6-10 years	.	11	39
Yes, >10 years	2	9	97
Yes, unknown duration	.	.	180
Unknown	1	13	1

Kidney Post-operative Occurrences

- Investigated and see very low raw occurrence rates, overall
- Examples:
  - Donor Sepsis : 1.8%
  - Recipient Sepsis: 3.2%
  - Donor UTI: 1%
  - Recipient UTI: 3.8%

Liver Demographics

N = 170 cases

Gender	Donor	Recipient
Female	73	54
Male	96	112

Race/Ethnicity	Donor	Recipient
American Indian or Alaska Native	2	5
Asian	5	13
Black or African American	27	19
Hispanic/Latino	22	20
Native Hawaiian or other Pacific Islander	0	1
Unknown/Not Reported	0	1
White	113	107

Liver Demographics

N = 170 Cases

Status	Donor
Deceased	154
Living	16

Insurance Status	Donor*	Recipient
Department of VA	1	7
Government Sponsored	1	99
Private	10	96
Uninsured/Donation/Charity	0	0
Unknown	5	0

Employment Status	Donor*	Recipient
Employed	11	40
Unemployed	5	120
Unknown	0	4

* Only asked of Living Donors

Liver Pre-operative Risk Factors

N = 170 Cases

Smoker	Donor*	Recipient
No	15	132
Yes	1	25

* Only asked of Living Donors

Functional Health Status	Donor*	Recipient
10%	.	10
20%	.	24
30%	.	15
40%	.	20
50%	1	25
60%	.	20
70%	.	20
80%	.	19
90%	.	6
100%	16	.

Liver Pre-operative Risk Factors

N = 170 Cases

Hypertension	Living Donor	Deceased Donor	Recipient
No	16	96	79
Yes, 0-5 years	.	19	6
Yes, 6-10 years	.	12	3
Yes, >10 years	.	13	3
Yes, unknown duration	.	10	65
Unknown	.	.	.

Liver Post-operative Occurrences

- **Investigated, and see very low raw occurrence rates overall**
- **Examples:**
  - **Recipient Deep Incisional SSI : 2.1%**
  - **Recipient UTI : 3.5%**

Summary

- **N = 606 cases collected from 8 pilot sites so far.**
- **Next steps include abstracting the rest of the cases and 30 day outcome data from the Alpha Pilot and conduct a full analysis.**

TransQIP benefits

- Capture more accurate surgical outcomes and incidence data
- Ability to risk stratify for outcomes
- Surgeon specific outcomes
- Benchmark/compare institutions
- Identification of areas for improvement
  - Use as component of CMS mandated QAPI program
- Follow interventions
  - E.g. reduce readmissions
- PQRS →MACRA/MIPS
- ABS MOC for QA activities

TransQIP – data entry

- Data transfer
  - Plans to reduce ALL double entry, aid data abstraction
  - ACS → UNOS vs. UNOS → ACS
  - Electronic medical record, e.g. EPIC →ACS
  - Other platforms in planning stages
  - Universal ACS/NSQIP platform
    - ACS Patient Reported Outcomes → universal platform

TransQIP beta phase

- Data analysis
- Review of variables
  - Eliminate high intensity variables
  - Eliminate variables that do not predict outcome
  - Refine outcomes
- Definitive phase
  - Universal platform

ACS/ASTS/Transplant programs

- Identification of centers that have the resources and wish to commit to being a beta center
- Orientation of Surgical Champions and SCRs
- Training of SCRs
- On-going Modification of variables

Questions?

- Thank you to ACS and ASTS staff
- All participating centers, surgical champions and SCRs

Beta Phase Info & Next Steps

Requirements for Beta Phase Participation

- ✓ Must be a NSQIP participating hospital
- ✓ Identify a surgical champion (preferably an ASTS member)
- ✓ Identify a Surgical Case Reviewer (SCR)
  - Will be trained on platform by ACS
  - Will need to capture every transplant case
- ✓ Signed contract with ACS
- ✓ Must complete the checklist above and be able to enter cases starting on March 1, 2017

Interested?

Contact Laurie Kulikosky at laurie.kulikosky@asts.org

ASTS
American Society of Transplant Surgeons