Organ Donation

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Support by Katie Ross (4th year UVIC BSN Student Nurse)

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Faculty of Medicine

Land Acknowledgement

BC transplant (BCT) acknowledges that our main offices are on the traditional, ancestral and unceded territory of the skwxwú7mesh (squamish), xʷməθkwəy̓əm (musqueam), and səl̓ílwətaʔ/selilwitulh (tsleil-waututh) nations. Our team lives and works across BC and strives to provide culturally competent care to all 203 first nations, metis, and inuit peoples.

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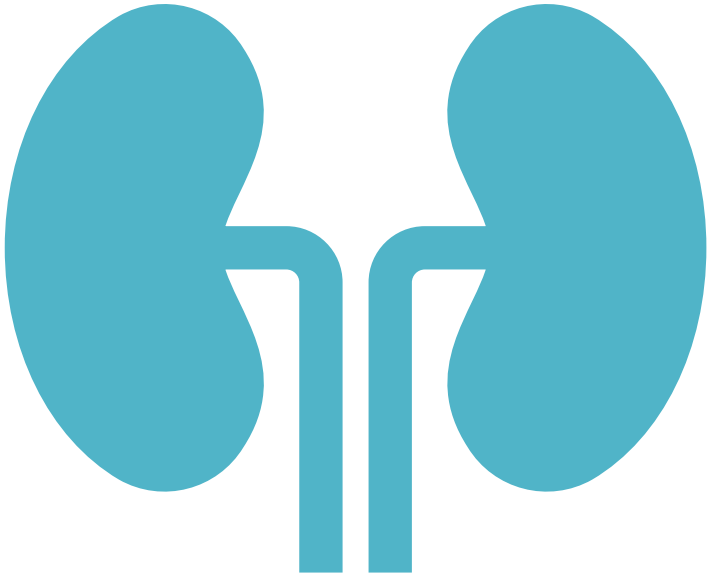
Presenter Disclosures



SEAN KEENAN MD

No relationship or commercial interests to disclose other than being: Provincial medical director, donation services, BC transplant

SHANNON MCCLOSKEY RN MN

No relationships or commercial interests to disclose

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Mitigation of Bias

All content developed as part of this program was reviewed for potential bias by the members of the program planning committee.

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Learning Objectives

1	Identify current referral indications and legislation for organ donation
2	Assess capabilities and barriers to organ donation at rural sites
3	Discuss strategies for improvement of care of organ donors and their families

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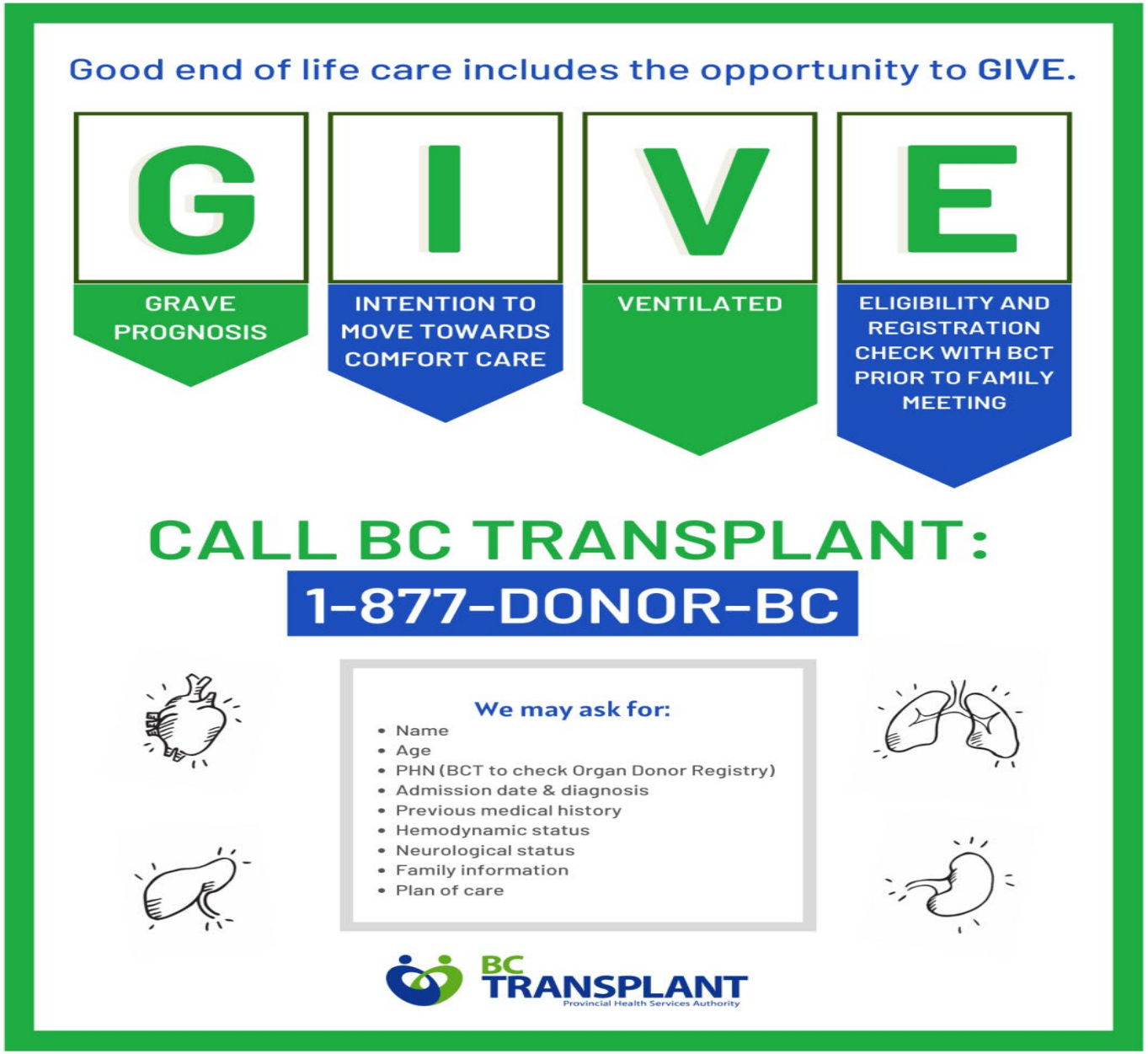

Indications for Referrals

As organ donation is rare, only those with unexpected deaths, or those who will undergo MAID (who meet specific criteria) would be considered as potential donors

(BC Transplant, n.d.)

Referral Process

iReferal	*Donor BC Call line*
A new user-friendly online system that simplifies the referral process in designated areas of care: • Currently in most ICU's departments • With hopes to be available to some emergency departments in the future <u>Benefits:</u> ✓ No log-in required ✓ Simple, fast, and secure online referral process ✓ Immediate notification to the BC Transplant team ✓ Seamless & prompt coordination between healthcare facilities, BCT, and Eye Bank ✓ Less time processing the request, more time for patient centered direct care	Currently used in emergency departments & in facilities who do not yet have access to iReferal system 1-877-DONOR-BC - Available 24 hours a day, 7 days a week.

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(BC Transplant, 2025b; n.d.)

Regulations for Organ Donation

Human Tissue Gift Act Legislation

Island Health Donation Policy

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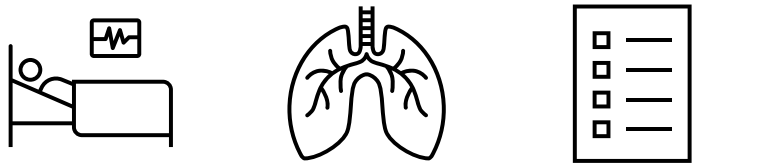
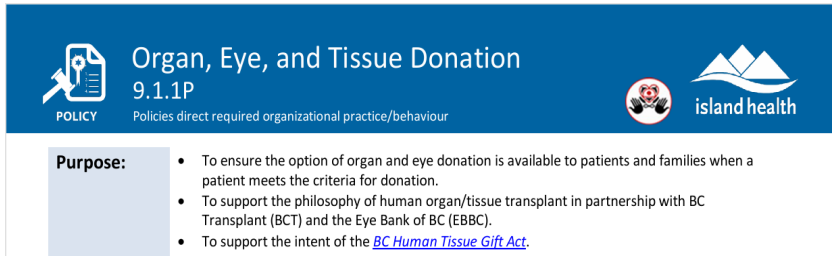
[Human Tissue Gift Act Legislation Documentation]





POLICY

Organ, Eye, and Tissue Donation
9.1.1P
Policies direct required organizational practice/behaviour

island health

Purpose:

- To ensure the option of organ and eye donation is available to patients and families when a patient meets the criteria for donation.
- To support the philosophy of human organ/tissue transplant in partnership with BC Transplant (BCT) and the Eye Bank of BC (EBBC).
- To support the intent of the *BC Human Tissue Gift Act*.

(Human Tissue Gift Act, 1996; Island Health, 2023)

Case # 1

34 Y M involved in 2 vehicle MVC on local highway, 90 km/hr, belted front seat passenger

EHS arrives at the scene

- Unresponsive
- Shallow respirations
- HR 120, BP 90/50
- Obvious head injury, forehead laceration
- Intubated for airway protection with spinal precautions, IVs started
- Transported to your ER on back board and C-spine collar

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Case # 1

- hemodynamically stable on presentation
- Pupils minimally reactive, mild gag, extensor posturing to painful stimuli
- Contusions on forehead
- Concern re fractured right femur
- CT head shows devasting brain injury (DBI)
- Phone consultation with Neurosurgeon
  - No surgical intervention is indicated

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Case # 1 Questions

How certain is this patient's prognosis?

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Case # 1 Questions

Should you discuss potential for organ donation?

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Donation after Death Determination by Circulatory Criteria (DCC) has saved lives, ***and sometimes it is the life of the potential donor.***

Findings from UK review of donation after DCC

Case # 1 Discussion Points

- "Devastating" brain injuries almost always have a grim prognosis…but not 100%
- Defer discussions regarding organ donation until more certain
  - 24-48 hours
- Be prepared for herniation
  - Short acting agents for hypertension
  - Ideally a central line for rapid infusion of fluids and use of vasopressors

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1. Early prognostication in devastating brain injury has known limitations and can be inaccurate. A sufficient period of observation and physiological support increases the opportunity for patient survival/recovery.
2. WLSM in DBI cases should be decided after observation of clinical evolution in an ICU setting in order to optimize patient outcomes. Exceptions to this would include, but are not limited to, the following case scenarios:

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Against wishes of patient
Unable to maintain
Comorbidities preclude ICU admission

(Healey, et al. 2020)

POSITION STATEMENT

To ensure that the management of DBI includes an observation period for optimized neuro-prognostication and that families are given the opportunity to consider organ donation as part of quality end-of-life care, the following high-level concepts are supported:

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(Healey, et al. 2020)

Case # 1

Application to Rural Communities

Decision to support for transfer to higher level of care

While patient in your ER BP noted to be rapidly rising … 220/120

What do you do?

What's happening?

What do you need to anticipate next?

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Patients may herniate and become brain death in the ER

- Watch urine output
- Try to establish central venous access or best alternative
- Treat hypertension with short acting drugs … this is a normal response
- Be ready for hypotension … often requires vasopressors

https://www.transplant.bc.ca/Documents/Health Professionals/NDD/ODHD-ODS.05.011.pdf

Anticipate hemodynamic instability

Case # 1 Discussion Points Continued

- Unable to transfer for 24 hours
- Patient has clearly deteriorated and now appears brain dead
- Question of organ donation raised
    - Who do you call?

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Case # 2

39 Y F found down in cardiac arrest with surrounding drug paraphernalia

ROSC at the scene and transported to ER

No extra sedation required by EHS

In ER hemodynamically +/- stable, T 35.4C

No brain stem reflexes

No response to painful stimuli

Riding vent

CT shows suggestion of diffuse edema

Case # 2 Questions

What is brain death?

Is this patient brain dead?

How can you determine brain death in this case?

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Can J Anesth/J Can Anesth
https://doi.org/10.1007/s12630-023-02431-4

SPECIAL ARTICLE

A brain-based definition of death and criteria for its determination after arrest of circulation or neurologic function in Canada: a 2023 clinical practice guideline

Sam D. Shemie, MD · Lindsay C. Wilson, MHA · Laura Hornby, MSc · John Basmaji, MD ·

(Shemie et al., 2023)

Death is defined as

The permanent cessation of brain function characterized by

1)Complete absence of any form of consciousness (wakefulness or awareness)

2) Absence of brainstem reflexes, including the ability to breathe independently

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Brain imaging should support injury

The cause of devastating brain injury leading to **DNC** should be supported by neuroimaging evidence consistent with the established cause.

Death Determination by neurological criteria “DNC” = Brain Death

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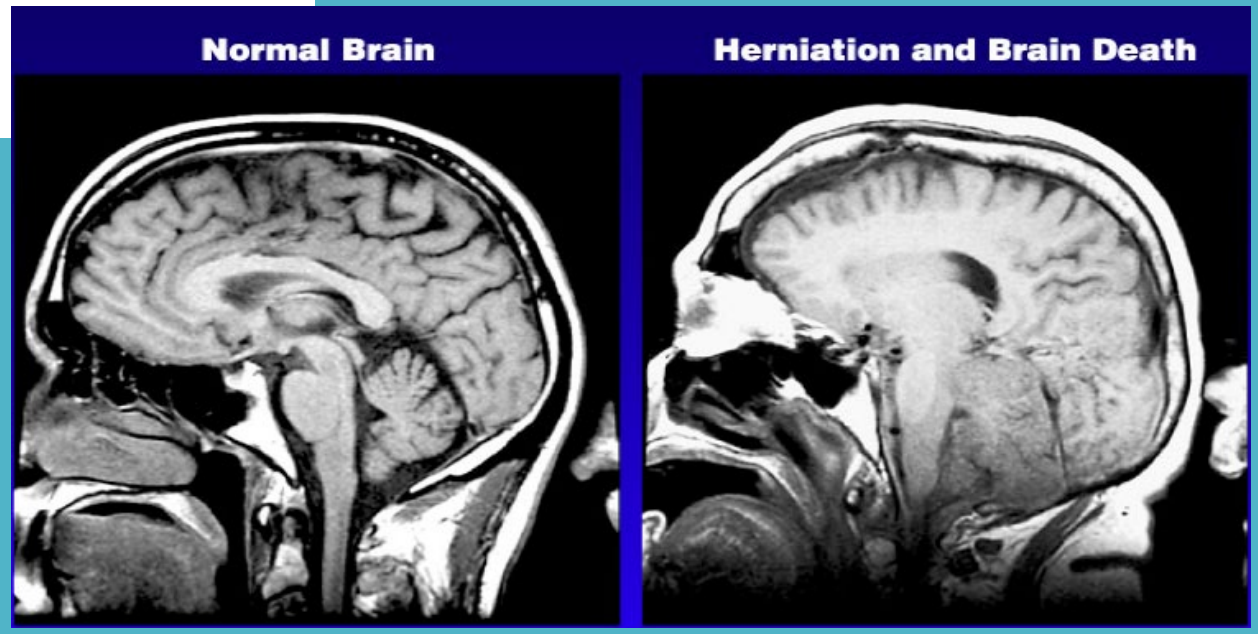
Isolated brainstem injury = Ancillary

Patients with isolated brainstem or infratentorial brain injuries who appear to meet the clinical criteria for **DNC** require ancillary investigation.



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Core temp ≥36°C for all ages

Core temperature should be 36°Celsius prior to completing the clinical assessment for **DNC** in all patient populations (adult and pediatric).

DNC: Wait 48 hours post arrest

DNC should be deferred at least 48 hours after a cardiac arrest - unless there is imaging evidence of a devastating brain injury compatible with death.

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Testing Brainstem Reflexes

- Check pupils
- Check corneal response
- Check gag reflex
- Check cough reflex
- Check vestibulo-ocular reflex
  - Look in ears
  - Ice cold water injections -50 ml
- ? Oculocephalic reflex (dolls eyes)

https://www.transplant.bc.ca/Documents/Health Professionals/ODHD-ODS-04-005.pdf

Testing Brainstem Reflexes

Apnea test

- Need baseline ABGs in range
- Pre-oxygenate
- Options beyond there
- Goal is to observe lack of breathing despite elevated $PaCO_2$ (> 60 and increase of 20) and lowering of pH (<7.28

Case # 2 Questions

Is this patient brain dead?

How can you determine brain death in this case?

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Confounding measures

- Unresuscitated shock
- Hypothermia
- Severe Metabolic Disorders
- Peripheral nerve/muscle dysfunction
- Suspected spinal cord injury
- ***Clinically significant drug intoxication***

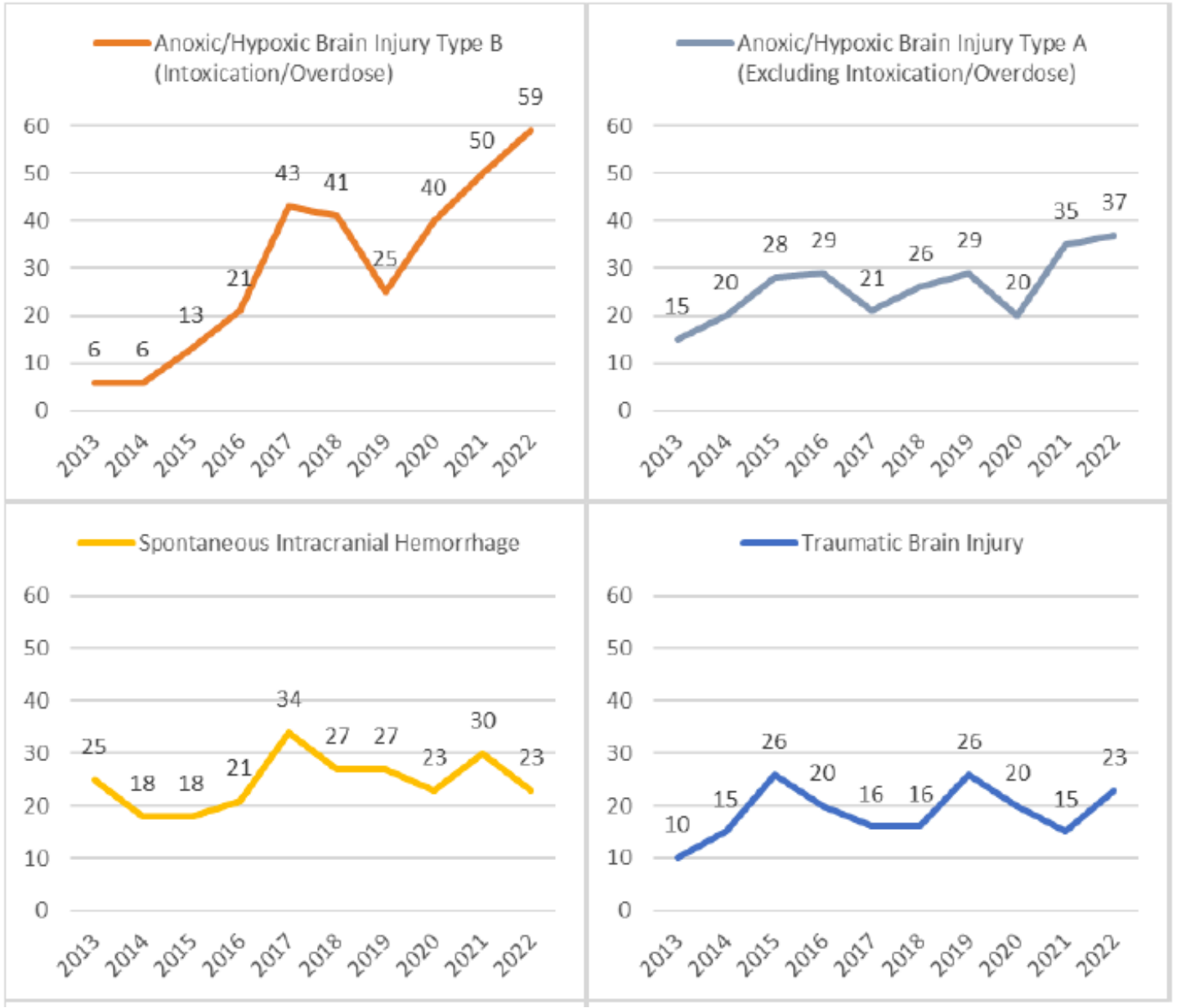
Ancillary Testing

Required if confounding factors exist OR unable to complete neuro exam

Nuclear medicine brain flow study

CTA – specific protocol for this

Cause of Death For Organ Donors in BC over time



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Can a patient be an organ donor if:

1) HIV positive

2) Hep C positive

64 yo male involved in MVC

* intubated at the scene
* history of severe COPD
* severe chest trauma
* no significant brain injury
* advanced directive – no ventilation
* Is he a potential organ donor?

Do you have to have a devastating brain injury?

54 yo woman with post-polio syndrome

* tracheostomy and home ventilation

* numerous hospitalizations for acute on chronic respiratory failure

* presents to ER with generalized deterioration …

* no quality of life – wondering about discontinuing ventilation

* Is she a potential organ donor?

What about a patient on home ventilator?

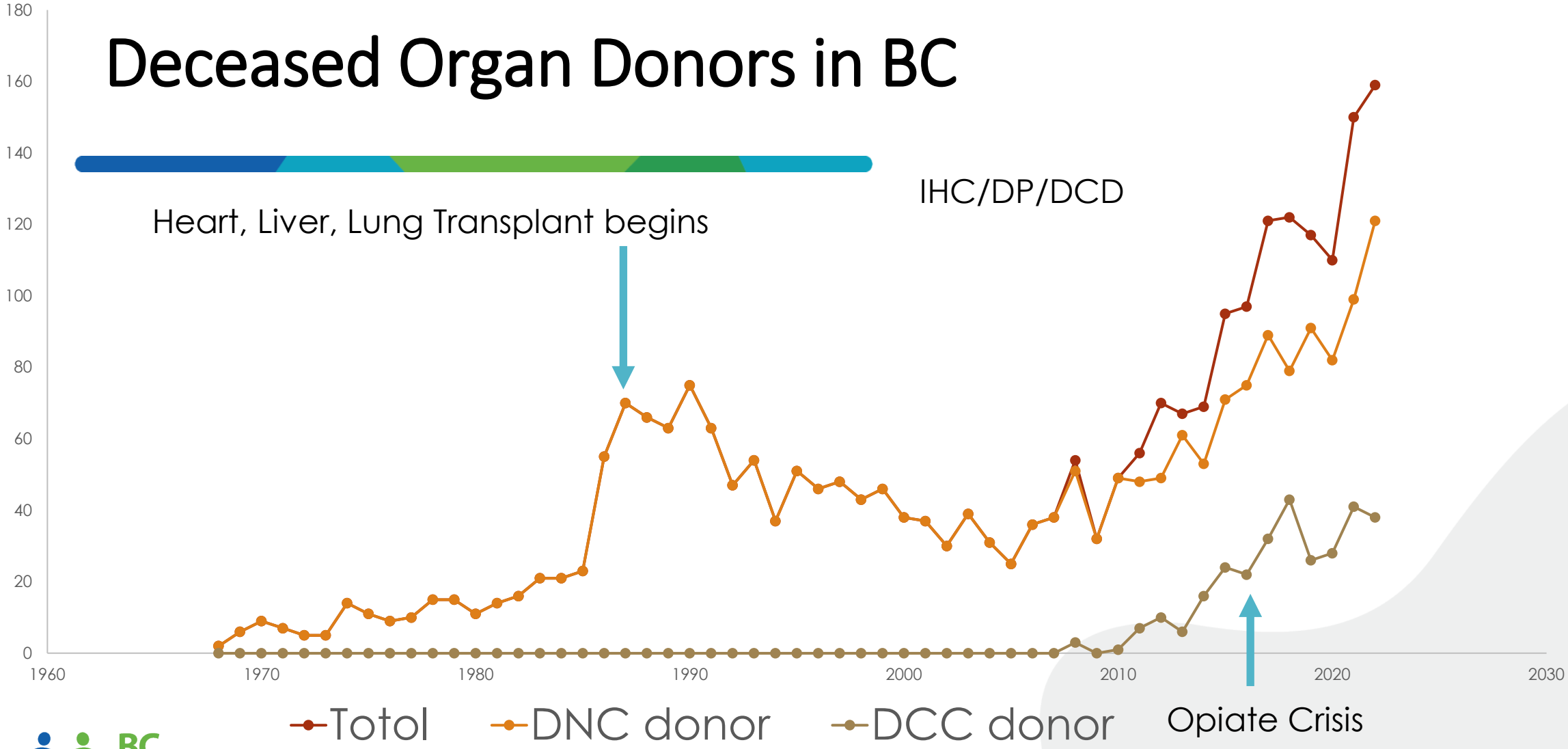
Consciously Competent Donor

68 year old man

* Prior stroke
* Severe vocal cord dysfunction
  - requiring tracheostomy
* Quality of life steady deterioration – to ER with FTT
* He and family requesting palliation and trach removal
* Is he a potential organ donor?

Does patient have to be ventilated?

Deceased Organ Donors in BC



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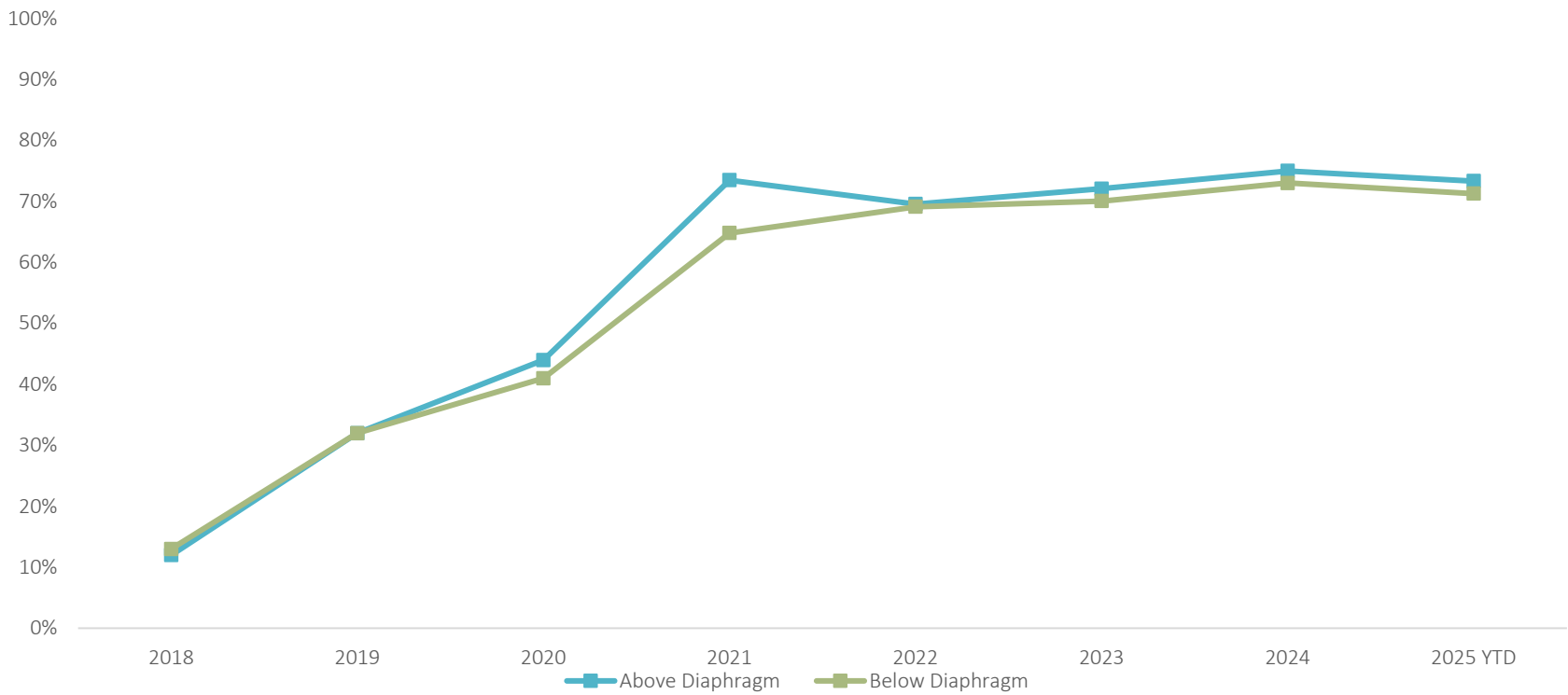
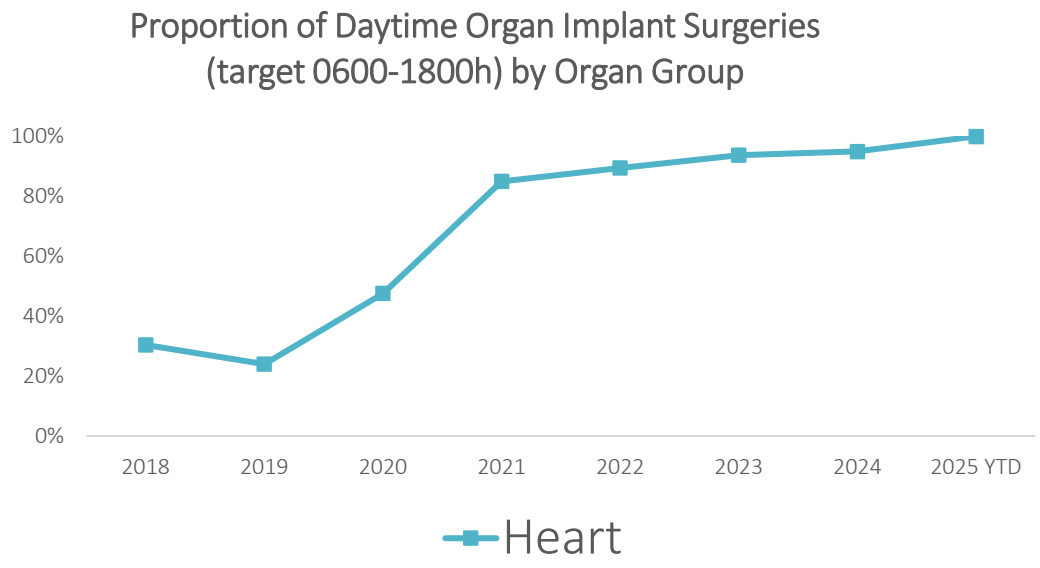
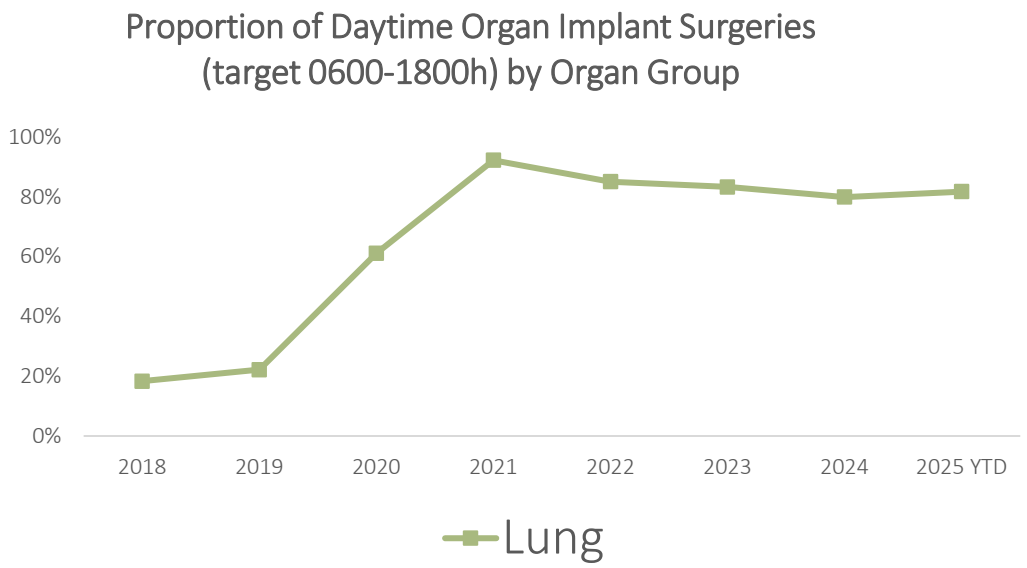
Proportion of Daytime Organ Recovery Surgeries (target 0700-1400h) by Group




Proportion of Daytime Organ Implant Surgeries
(target 0600-1800h) by Organ Group
100%
80%
60%
40%
20%
0%
2018
2019
2020
2021
2022
2023
2024
2025 YTD
Heart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100%
80%
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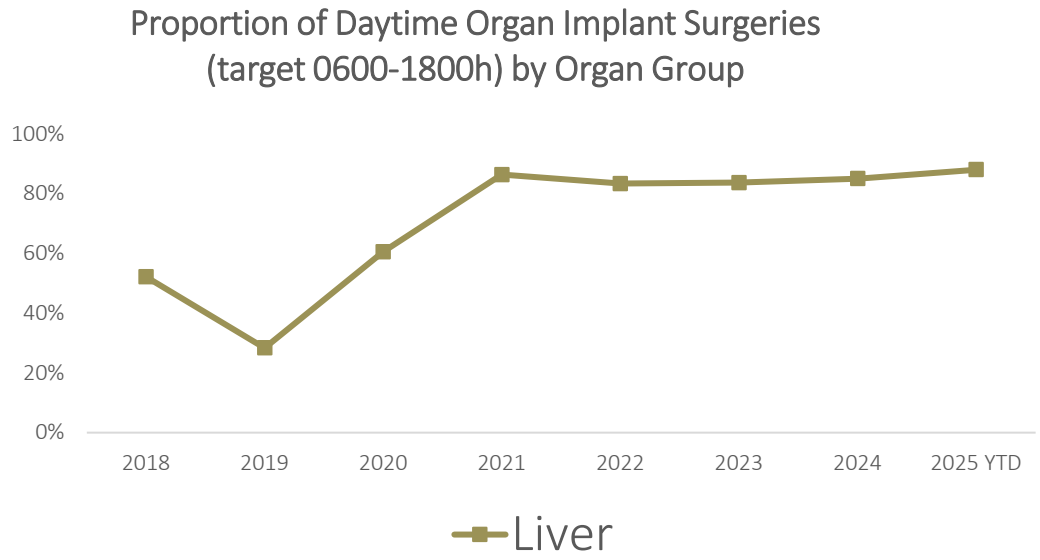
0%
2018
2019
2020
2021
2022
2023
2024
2025 YTD
Lung


Proportion of Daytime Organ Implant Surgeries
(target 0600-1800h) by Organ Group
100%
80%
60%
40%
20%
0%
2018
2019
2020
2021
2022
2023
2024
2025 YTD
Liver

Thank you!

Q&A

POST YOUR QUESTIONS IN THE CHATBOX

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Resources & References Mentioned


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