

DNAR: Do Not Address Resuscitation?

A Pilot on Periprocedural Code Status Changes for Cardiology Procedures

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Learning Objectives

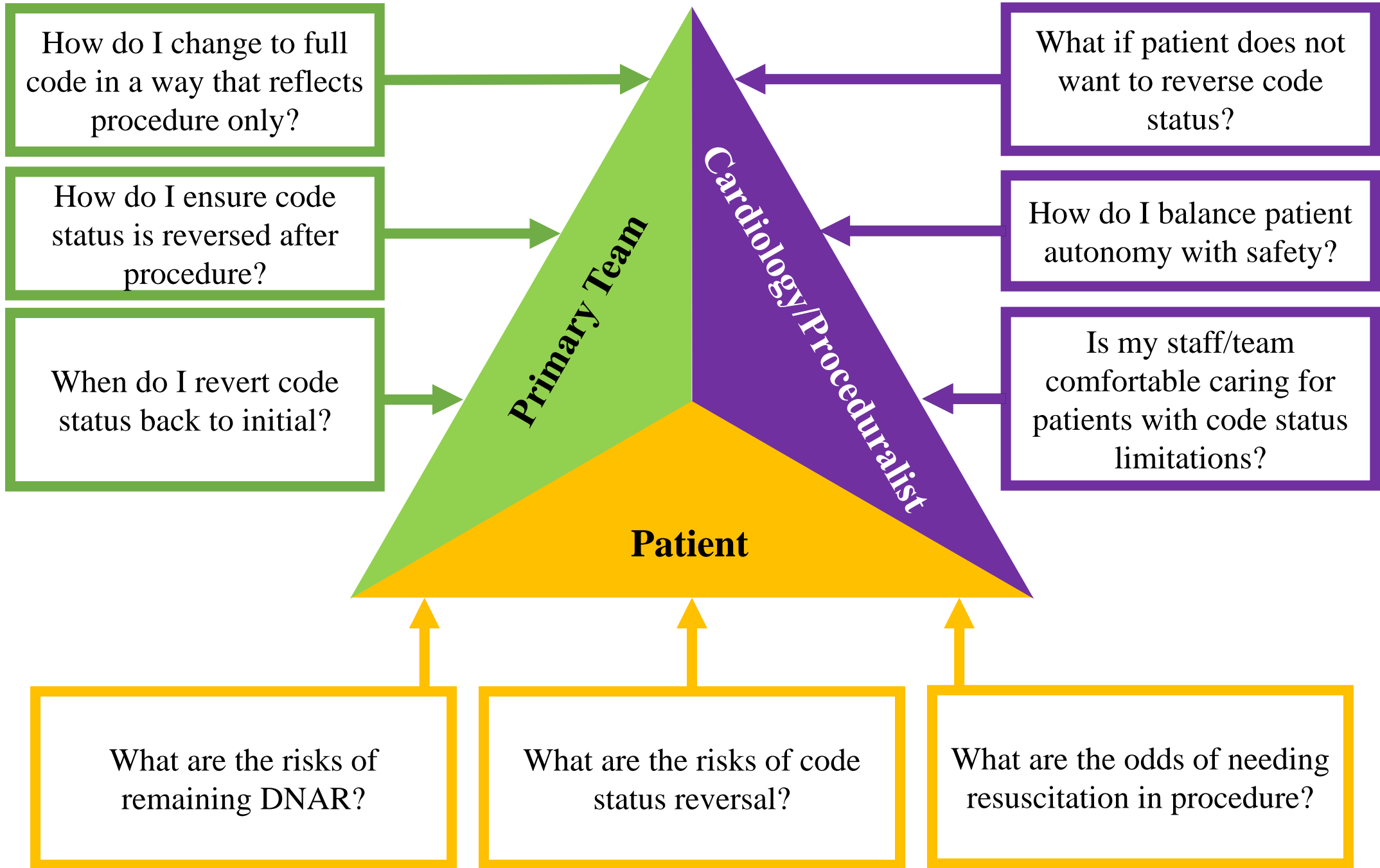
- Assess patient cases requiring code status discussions prior to invasive procedures
- Identify electronic health record (EHR) advancements that can mitigate barriers to creating a peri-procedural code status workflow that aligns with established quality standards
- Define a feasible interdisciplinary model for managing peri-procedural code status orders

Conflicts of interest

- None to report

Ms. M

- 76 yo female
- Admitted to cardiology service with exertional chest pain
- Hx: CAD s/p CABG, multiple PCIs, HTN, HLD, DM, hypothyroidism
- Troponins 0.03 → 0.34, peak at 3.96
- EKG with new ST depressions
- Has durable DNR, code status on admission recorded as DNAR/DNI



Next steps in our case?

American College of Surgeons Guidelines

- ACS: “require reconsideration”
 - Discuss with patient/family risks of procedure & treatment goals within scope of patient’s values
 - Should be had as early as possible
- Automatic cancelation of DNR -> damages patient autonomy

STATEMENTS

Statement on Advance Directives by Patients: "Do Not Resuscitate" in the Operating Room

January 3, 2014

Advance directives by patients: “do not resuscitate” in the operating room. ACS. July 3, 2014. Accessed October 13, 2023. <https://www.facs.org/about-acs/statements/advance-directives-by-patients-do-not-resuscitate-in-the-operating-room/>.

SCAI

- Society for Cardiovascular Angiography and Interventions recommends discussion with DNAR patients on temporary suspension of DNAR status

Naidu, SS, Abbott, JD, Bagai, J, et al. SCAI expert consensus update on best practices in the cardiac catheterization laboratory. *Catheter Cardiovasc Interv.* 2021; 98: 255–276. <https://doi.org/10.1002/ccd.29744>

TABLE 1. Pre-procedure checklist for cardiac catheterization

Is the patient taking aspirin chronically? Yes No
Is the patient taking clopidogrel or another P2Y12 inhibitor chronically? Yes No
Did patient take metformin within the past 24 h? Yes No
Did patient take sildenafil (or equivalent) within the past 24 h? Yes No
Did patient receive LMWH within the past 24 h? Yes No
If yes for LMWH, time and dose of last administration:
<i>Informed consent:</i>
Was informed consent obtained per institutional policy and updated on the day of procedure? Yes No
If the patient has DNR or DNI status, is it revoked for the procedure? Yes No
<i>Sedation, anesthesia and analgesia:</i>
Are ASA and Mallampati class documented? Yes No
Is there any contraindication to sedation present? Yes No
<i>Bleeding risk assessment:</i>
Is patient on chronic anticoagulation (e.g., warfarin, direct acting oral anticoagulants)? Yes No
<i>Laboratories and studies:</i>
CBC and basic electrolytes within 30 days (outpatient) or 24 h (inpatient)? Yes No
Was EKG performed within 24 h? Yes No

American Society of Anesthesiologists

- Recommend “communication among involved parties” and documentation of conversations in medical record
- Important to promote self determination
- Get primary team, surgeon/proceduralist, and anesthesiologist all on same page prior to procedure
 - If anesthesia uncomfortable -> voice concerns with team

Statement on Ethical Guidelines for the Anesthesia Care of Patients with Do-Not-Resuscitate Orders

Developed By: Committee on Ethics

Reaffirmed: October 17, 2018 (original approval: October 17, 2001)

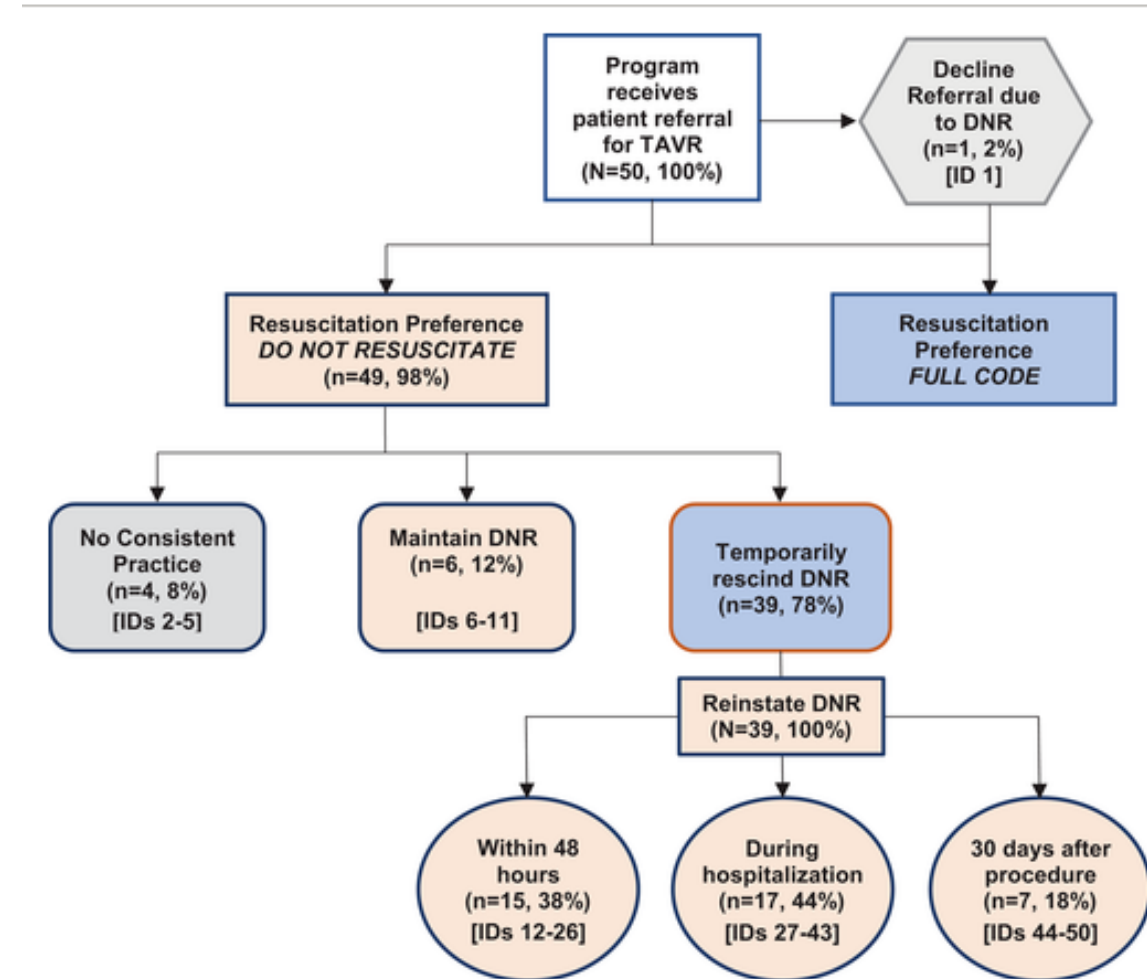
Statement on ethical guidelines for the anesthesia care of patients with do-not-resuscitate orders. American Society of Anesthesiologists (ASA). October 17, 2018. Accessed October 13, 2023. <https://www.asahq.org/standards-and-practice-parameters/statement-on-ethical-guidelines-for-the-anesthesia-care-of-patients-with-do-not-resuscitate-orders>.



American Society of
Anesthesiologists

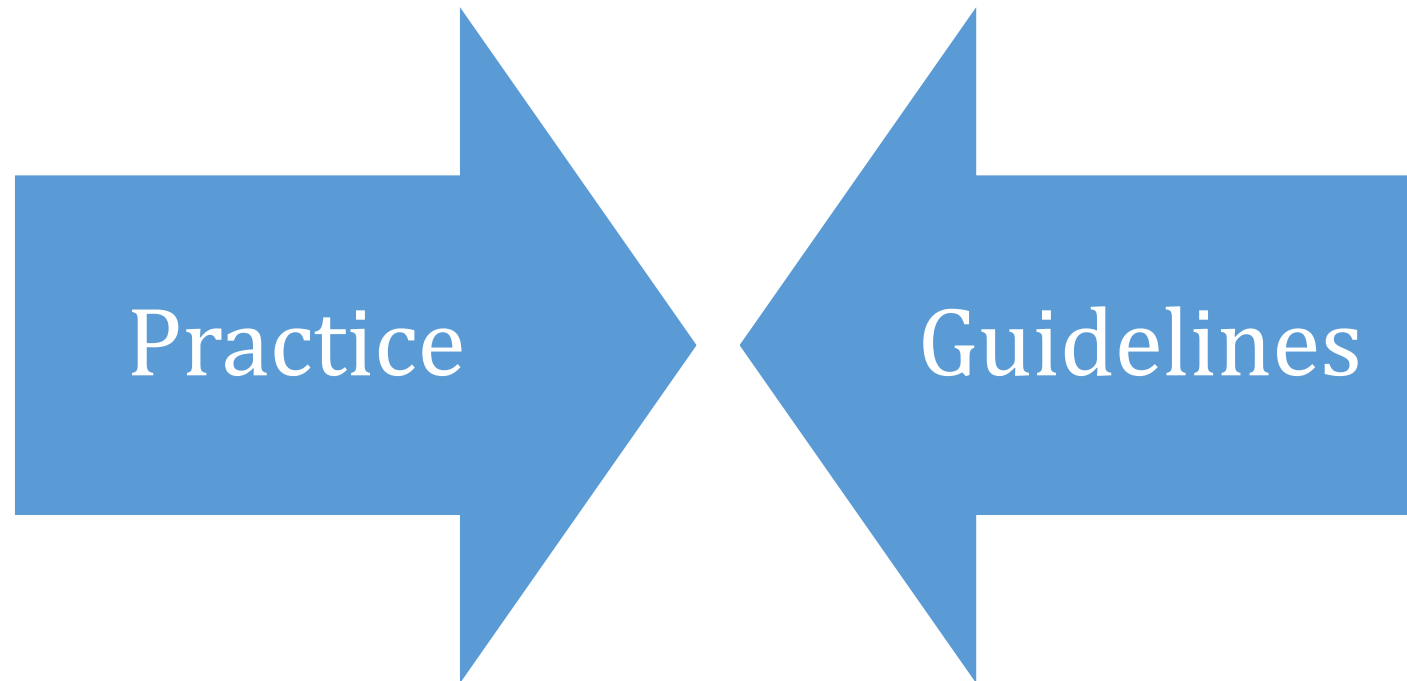
Peri-procedural code status for transcatheter aortic valve replacement: Absence of program policies and standard practices

- Evaluated practices for documenting preferences in patients with DNARs across programs
- Interviews with TAVR coordinators
- 98% programs addressed peri-procedural code status
- Only 26% with policies
- 78% temporarily rescind DNR status, but for how long varied
- 6 programs recognized TAVR as palliative procedure



Goals of intervention

- Improve care of patients with code status limitations in cardiology procedural areas



Interdisciplinary Team Model

Cardiology
Procedure
Nursing Leaders

Senior IT
Analysts for
EPIC

Other groups
consulted for feedback

- Risk management
- Ethics
- Primary teams
- Cardiology leadership
- Nursing leadership

Palliative Care
Specialists

Surgical
Specialists

Workflow

Conversation with patient/family regarding code status

Primary team places signed and held "temporary full code for procedure" order

Procedural RN releases order

Primary RN releases patient's prior code status on arrival back to floor

** Code for Cardiology Procedure (orders to temporarily rescind DNR for procedure and restore DNR following procedure) **

Preprocedure

To be released by the procedural RN


Full Code For Procedure (temporarily rescind DNR for procedure)

✓ Accept ✗ Cancel

Process Instructions: To update the patient's code status, place a code status order. Do not modify or discontinue any currently active code status orders.

Code Status Comments: ✎ **TO BE RELEASED BY PROCEDURAL RN ONLY**

✓ Accept ✗ Cancel

 Postprocedure

Restore patient's preprocedure Code Status

This order restores the patient's DNR status that was in place prior to the patient being made Full Code for a cardiology procedure. Patient's nurse should release this order upon patient's return to their primary unit post-procedure.

DNAR/Comfort Care

** PRIMARY NURSE TO RELEASE IMMEDIATELY UPON RETURN TO THEIR PRIMARY UNIT POST PROCEDURE** This order restores the patient's DNR status that was in place prior to the patient being made Full Code for a cardiology procedure., On Unit (Post Procedure)

DNAR/DNI

** PRIMARY NURSE TO RELEASE IMMEDIATELY UPON RETURN TO THEIR PRIMARY UNIT POST PROCEDURE** This order restores the patient's DNR status that was in place prior to the patient being made Full Code for a cardiology procedure., On Unit (Post Procedure)

DNAR/Otherwise full interventions

** PRIMARY NURSE TO RELEASE IMMEDIATELY UPON RETURN TO THEIR PRIMARY UNIT POST PROCEDURE** This order restores the patient's DNR status that was in place prior to the patient being made Full Code for a cardiology procedure., On Unit (Post Procedure)

Best Practice Advisory

ⓘ The active code status on the patient is only used in the procedural perioperative phase. Notify the primary team/provider to place the order for CODE status that is applicable to the On Unit phase of care. If code status is "sign & held," nursing should release the order as appropriate.

[Review release orders](#)

Click here to view orders to release

ⓘ Acknowledge Reason

Patient still in the periprocedural area

Will notify the primary team

Selecting one of these options suppresses the BPA temporarily

✓ Accept

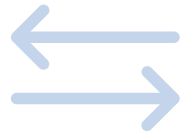
Code Status History

Date Active	Date Inactive	Code Status	Order ID	Comments	User	Context
[REDACTED]		DNAR/DNI	[REDACTED]	** PRIMARY NURSE TO RELEASE IMMEDIATELY UPON RETURN TO THEIR PRIMARY UNIT POST PROCEDURE** This order restores the patient's DNR status that was in place prior to the patient being made Full Code for a cardiology procedure.	[REDACTED]	Inpatient
[REDACTED]		Full Code for procedure (temporarily rescind DNR for procedure)	[REDACTED]	**TO BE RELEASED BY PROCEDURAL RN ONLY**	[REDACTED]	Inpatient
[REDACTED]		DNAR/DNI	[REDACTED]	[REDACTED]	[REDACTED]	ED

Preliminary results



Entire protocol followed 11/17 procedures



Orders changed 13/17 procedures



Clinician documentation 14/17 procedures



Given success in EP and cath spaces,
workflow now expanded to TEE

Lessons Learned

Redefining Success

- “Protocol not followed” ≠ failure
- Redefining “palliative procedures”

Specialty-Specific Expertise

- Importance of interdisciplinary team with know how and motivation for change
- IT partners

Keys to Success

- Openness to feedback
- Flexibility
- Compromise
- Big-picture focus

Next Steps & Questions for Colleagues

Talking to IR or GI procedural spaces?

- Complexities and challenges

Similar protocols at your institutions?

Barriers to implementation?

Other IT approaches to this topic?

Questions?