Placing a Central Vascular Access Device in a Patient With Substance Use Disorder

The Ethical Position of the Infusion Nurse

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ABSTRACT

When infusion nurses place central vascular access devices in patients with substance use disorder (SUD), they are both enabling treatment and making the patient more vulnerable to his or her addictive illness. Using the lens of rescue enables an exploration of the ethical position of the infusion nurse regarding these patients, even though rescue, per se, is inadequate to the complexity of the situation. Suggestions are offered to both the infusion nurse and the health care team for improving their ethical stance, as well as their care of patients with SUD.

Key words: addictive disease, beneficence, CVAD, infusion, nonmaleficence, rescue, substance use disorder

It is routine for infusion nurses to place central vascular access devices (CVADs) in patients for long-term antibiotics or chemotherapy. The practice becomes more ethically complicated when the patient has a known substance use disorder (SUD), either present or past, and outpatient therapy is expected. In placing the CVAD, the nurse has made a change to the patient's body enabling safe and ready access to its most robust areas of circulation. If the CVAD renders the patient more vulnerable to the addictive illness, does the nurse (or the health care team) bear any ethical responsibility for amplifying the patient's jeopardy? This discussion uses the lens of rescue to examine the legal and ethical position of the infusion nurse and suggests a shift in the moral relationship between the clinician and the patient. The adjustment is necessary to account for the increased risk posed by the CVAD to the patient with SUD. The article offers practical suggestions to assist the nurse and the health care team in enacting this change. A review of several concepts follows, beginning with the difficulties of SUD itself.

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SUBSTANCE USE DISORDER

A 5-year study and meta-analysis by The National Center on Addiction and Substance Abuse at Columbia University reported that addiction is a widespread, relapsing, and chronic disease, particularly of the brain.[1] The normal operations of risk and reward that most people exhibit are profoundly disrupted in persons with SUD. Active addiction alters brain chemistry, specifically its reward circuitry. Cognitive changes result that alter behavior. These modifications are dangerous, especially to the person with the disorder, because "fundamental natural drives and associated behaviors lose their value in comparison [to the substance]."[1(p21)]

Macy's[2] research regarding opioid addiction in Appalachia cites several discouraging facts about recovery from SUD. Even when a patient is able to access medically assisted therapy (MAT), getting out from under the illness of addiction is difficult, and relapse is extremely likely. Persons with SUD may also experience mental illness, low self-esteem, and suicidal ideation.[3] Active addiction can obviate "choice," partly because the fear of experiencing withdrawal symptoms (ie, being "dopesick") is overwhelming. This fear can take over, too often with fatal consequences;[2] "...the most important thing for the morphine-hijacked brain is, always, not to experience the crushing physical and psychological pain of withdrawal: to avoid 'dopesickness' at any cost."[2(p9)] Once addiction is established, the body responds to the absence of the substance, with symptoms ranging from restlessness to flu-like symptoms to seizures.[4] Onset can be rapid—within hours of the last dose. In the absence of another hit, symptoms may last from days to

weeks, depending on the substance and the length of use.[4] The intense desire to ward off this experience can bring dire consequences, including overdose. In 2018 the death toll from substance abuse overdose was 67 367 in the United States.[5]

THE PATIENT'S PRECARIOUS POSITION

If a patient with SUD is now also confronting a serious, life-threatening illness that calls for a CVAD to deliver necessary medications, the patient may be in significant peril. Perhaps the illness has come about as a direct result of the SUD, because compromise to the immune system is a common comorbidity to addictive illness.[6]

Health care facilities struggle with how to balance the need for CVAD placement with the likelihood that such patients' history of SUD has degraded their judgment and impulse control.[7,8] Clinical policy may require patient-provider contracts to enhance patient awareness that tampering is not allowed. A device may be added that will indicate to clinicians that unauthorized use has occurred. These interventions place the responsibility for the consequences of the bodily change that the nurse has enacted with the patient alone. Many would argue that such decisions are entirely appropriate. It is the patient's obligation to refrain from misusing this new access. Any ill effects for failing to exercise self-restraint, up to and including dismissal from therapy, properly belong with the patient, in this view. Yet, it does not take into account the implausibility that the "morphine-hijacked brain" will operate as if it were opioid-naïve, regardless of the addictive substance. Now that the health care team and the infusion nurse have encountered this patient and placed this device, it is possible that their ethical position in terms of the patient's welfare has shifted. Their efforts to rescue the patient from serious illness with an intervention that temporarily increases the danger of overdose is an interesting moral dilemma.

The patient's endangerment is multifaceted. Besides the possibility of tampering or even overdose by the patient, other potential problems exist. Even with the best efforts of the infusion nurse, the CVAD is subject to misuse, malfunction, and being a conduit for infection. The plan to rescue the patient from life-threatening illness or infection requires the CVAD. What does rescue mean when the means to that end could put the patient in greater harm? Does the placement of the CVAD increase the nurse's moral obligation to prevent harm, that is, to rescue? To examine this possibility further, it is helpful to turn to some of the legal and ethical thinking about the role of the rescuer.

RESPONSIBILITY TO RESCUE

Ordinarily one's individual responsibility to rescue someone from jeopardy is little to none under the law—with some state exceptions, such as laws protecting Good Samaritans.[9,10] The reason is that any obligation to rescue (or legal requirement to do so) could interfere with the would-be rescuer's individual liberty to choose to act or not.[10] If someone nearby were drowning and we could throw a rope or call for help, doing either might be a minimally expected action for an individual to take in terms of rescue. We might assume an attitude of benevolence from that person, motivating their intervention.[10] However, no legal statute compels such action.

Perhaps this juridical perspective seems incomplete. Are human beings to be held to no standard when it is so simple to make a critical difference for another person? Moving from law to ethics offers somewhat more satisfaction. The obligation to throw a rope or call for help if one encounters a stranger drowning is not a moral choice, as the law characterizes it, but rather an obligation of beneficence of one human to another, according to Beauchamp and Childress.[11] Their ethics perspective enables them to assert a higher standard of behavior than does the law. In a discussion of ideal human behavior, they propose a continuum from "strict obligation" to "weak obligation" to "ideals beyond the obligatory" to "saintly/heroic acts."[11(p48)] They notice that professionals are expected to conform to a higher level of obligation than nonprofessionals, and this distinction applies to clinicians caring for patients.

In the realm of health care delivery, the responsibility to rescue is far more fully developed than calling for help to rescue someone in danger. In ethics statements such as the *American Nurses Association Code of Ethics for Nurses,*[12] the social contract between health care professionals and the public confirms a stronger obligation of beneficence from the nurse for patients than is expected from nonclinicians.[13] Furthermore, the idea of rescuing patients from collapse and death is so compelling in itself that one can argue that it has motivated the overall design of health care delivery in the United States.[14] When hospitals hold themselves accountable for "failure to rescue" as a quality assurance concern,[15] the key role of rescue is palpable.

Beauchamp and Childress[11] also state that rescuing from harm involves aspects of 2 basic principles in ethics, nonmaleficence (the prevention of harm) and beneficence (intending good). It is ironic that, in placing a CVAD, the infusion nurse is both attempting to rescue the patient from the harm of serious illness but also expanding the risk of endangerment due to the individual's history of SUD. Beauchamp and Childress[11] discuss such a circumstance but not in a way that is useful to the infusion nurse's position. When a clinician may be taking action that is increasing the risk of harm to the patient, Beauchamp and Childress suggest a standard of "due care."[11(p160)] Taking due care as a standard assumes that the specific harm involves negligence, a "breach of duty" on the clinician's part. However, interpretations of the duty, the breach, and the harm are unclear when the problem is *not* one of negligence, as it is not in the case of CVAD placement. Certainly, the infusion

nurse never intends to diminish a patient's well-being by placing the CVAD. The nurse exercises due care as a matter of course, deploying meticulous skill in placement and teaching, which enables the treatment plan to go forward. Even though we acknowledge that rescue involves both intending good and avoiding harm, the lack of clarity regarding the nurse's ethical responsibility persists, as does the question: How can the infusion nurse be rescuing the patient if the means of rescue carries the potential for such harm?

A MORAL SHIFT AND CHANGE IN RELATIONSHIP

The ethical principles regarding rescue and the professional obligation of beneficence assume that the would-be rescuer had no role in placing the person in jeopardy. If the rescuer did play a part in placing the person in danger, then an important moral shift occurs. Nonmaleficence (one part of rescue) involves avoidance of further known or unknown harm.[11(p158)] However, by placing the CVAD in the setting of addiction, the infusion nurse has indeed increased the risk of the patient's self-harm. The harm is due to the newly available access to a major vessel coupled with the patient's altered brain chemistry brought about by the SUD. Certainly the infusion nurse is not alone in increasing this risk of harm—the past actions of the patient have played a role. The team members also share responsibility, having ordered a treatment plan that requires the CVAD to be placed. Even as its clinicians exercise all due care, the plan itself increases the team's moral obligation to prevent harm to the patient, but as the enactor of the change to the patient's body, the infusion nurse is on the sharp edge of this moral spear. It is the nurse who will be instructing the patient in how to care for the site even as she or he cautions the patient against tampering. If a patient contract is involved, the nurse may have a role in overseeing its completion.

Before exploring what the shift in this relationship might entail, it is helpful to review what is and is not under the nurse's control. No matter how meticulous the nursing care, no nurse holds sway over ultimate patient outcomes. It is not in the nurse's power to prevent the patient's death from the primary illness that the CVAD is meant to alleviate. Likewise, the nurse cannot eliminate any secondary infection, the onset of further disease, or overdose. The nurse is unable to cure the patient's active addiction nor even advise a path that will guarantee the patient's recovery. The nurse can control only 2 factors: his or her professional behavior and attitude. Rescue, in fact, does not come into play.

Reviewing the Situation

If CVAD placement in a patient with SUD alters the moral positions of the nurse and the team, but the agency of each participant is limited, then the situation may not qualify as a rescue operation. Placing the CVAD and continuing with the treatment plan are interventions designed to limit the damaging effects of the new disease in the patient's body. Doing so with excellence is to comply with prevailing standards of care. The team has just thrown their "drowning" patient a very high quality "rope." However, it would be a mistake to think of their action as a deed of rescue. Placing the line is certainly an act of beneficence designed to facilitate the delivery of life-saving medication, but the outcome of this well-intentioned act is unknown and unknowable. Yet beneficence and nonmaleficence are still relevant, and the relationship with the patient can be a touchstone for both.

Now that the team and particularly the infusion nurse have pushed the patient out on this limb for the patient's own best interests, ethically they cannot ignore the patient's precarious position. Their interest in patient welfare needs to take an expanded form so that they may allow themselves to be noncomplicit should the limb give way. Now, neither blind trust in the patient's capacity to refrain from using the CVAD nor a complacency ready to blame the patient for doing so seem to be a good moral fit for the situation. It is helpful to notice that, in placing the CVAD, the nurse and the patient become linked in at least 2 ways: the physical act of one person placing a major foreign object in another person's body and their joint hope for a good outcome, albeit in an unsafe situation. Both are seeking the good in the setting of an uncertain future, and this commonality becomes a place for them both to stand.

Relating Through Narrative

Gadow offers guidance to nurses in such situations.[16] She has described the collaboration between the nurse and the patient as an "ethic," as they fashion a relational narrative of the good that both seek. Both the nurse and the patient can contribute to the narrative: The nurse describes the purpose of the CVAD, its placement, and care; the patient may relate the circumstances of his or her life and active or nonactive addiction. Both have hopes and fears for how things will turn out. In relating their mutual perspectives to each other, a new story is created.

> Their co-constructed ethic [sic] becomes the safe harbour from where patient and nurse can venture forth to explore together the alien world created by illness, one that is laden with obstacles to the crafting of the good and the path to attain it–the goal of any ethic.[16p138]

But of course, once the CVAD is placed, the nurse and the patient do not actually "venture forth together." Their separable contexts are unspecified and fluctuating. The infusion nurse's role may not allow for ongoing interaction once the patient is discharged. The patient's environment and illness may not encourage an ability to follow the rules, even with the best of intentions. Gadow's understanding of relational narrative is particularly relevant in this situation when so much ambiguity about the future is indisputable. In the brief time that they are together, the nurse and the patient are engaged in meaning-making. They can create

a safe harbor by manifesting mutual respect, openness to one another, and presence. An obligation to excellence in infusion practice on the nurse's part is unquestioned. Along with it, the nurse must nurture humility, hope, and a commitment to the patient's understanding of his/her best self.[16] None of these faculties may be easy to come by in the setting of SUD, yet they are critical for creating a narrative of safety between patient and nurse.

PRACTICAL SUGGESTIONS

Beyond the relational narratives that may be created with particular patients, the infusion nurse may find additional ways to fortify this safe harbor that leans toward the good. Even as their individual patients' futures remain unclear, the nurse and the health care team can open themselves to greater knowledge of what patients face when they present with a history of SUD. Suggestions for specific actions follow:

1. Applying the appropriate vocabulary regarding SUD can improve clinician sensitivities to patients and each other and build trust.[17]
2. Infusion clinicians must attend carefully to professional contexts, for example, hospital policies regarding patients with SUD and who is in charge of reviewing and revising these policies.
3. Professional development opportunities that address vascular access in patients with substance abuse disorder can expand the team's perspective. They may commit to explore current research jointly on a regular basis.
4. The nurse and the health care team may consider advocacy strategies such as team-based and hospital-wide competencies regarding SUD; exploration of hospital and community-based resources for persons with addictive disease and their families; and the possibility of partnering with local MAT or syringe programs.[18]
5. Specific competency in the treatment of accidental or intentional overdose can enable policies that address the provision of naloxone and patient/family education regarding its use.
6. Collaborative creativity can expand beyond adding devices to the CVAD that indicate tampering. Additional interventions include "nudge" technology, which allows the patient to set goals and earn rewards, or texts such as those used in appointment reminders to maintain patient contact between visits.[19]

The nurse and the health care team's responsibility for the greater vulnerability they have ushered into the patient's life suggest the actions on this list as forms of nonmaleficence, that is, taking steps not to make things worse.[9] Improving clinicians' knowledge of the context of SUD will enable them to make the most of the brief time that they spend with each patient, enabling them to engage in a relational narrative that creates greater good and carries more meaning for everyone involved.

Good news regarding the prospects for outpatient management of patients with SUD and CVAD comes from a recent literature review. Despite the general reluctance of clinicians to treat patients with SUD on an outpatient basis, the outcomes and complications for outpatients with SUD and a CVAD are comparable to those undergoing this therapy without a history of addictive disease according to Suzuki et al.[8] They also raise the possibility that patient engagement with MAT concurrently with the CVAD can improve the odds even more, but this prospect requires further study. These findings are encouraging to clinicians who wish to treat patients with SUD and CVAD on an outpatient basis. At the same time, they do not alter the ethical requirement to attend to these patients' increased risk of harm, as discussed.

CONCLUSION

Perhaps the idea of "rescuing" a person with SUD on any level—from addiction, infection, or even death—is a misnomer. A more accurate depiction of nursing practice or patient care itself is to apply useful interventions while accompanying the patient in their journey through illness. The critical ethical features of the complex situation of placing a CVAD in a patient with SUD do not depart from the professional obligations inherent in any patient encounter: fidelity to the patient relationship, excellence in technique regarding CVAD placement, comprehensive patient teaching regarding care of the site, and cautions regarding potential problems. Gadow's "alien world of illness"[16] greets clinicians in almost every patient encounter, after all. Patient education may be more elaborated if extra devices, contracts, or nudge technology is involved. The nurse demonstrates an intention for good and avoidance of harm in everyday professional practice but need not suffer guilt from somehow failing to rescue the patient. Ultimate outcomes are beyond any one person's control and responsibility.

What may be somewhat different here is, that in order to "lean toward the good,"[13] the infusion nurse and the health care team may need to heighten their own self-awareness. They have an obligation to stay updated on the facts of SUD and to promote respectful policies and actions that avoid making the situation for the patient even more unstable.

For the nurse, the extra layer of vulnerability added to the patient by the CVAD obligates a more intentional level of fidelity to the patient. In their time together, the nurse must inquire about the patient's circumstances and listen actively to the responses so that teaching is targeted and problem-solving techniques make sense. Both the patient and the nurse are hopeful for a positive outcome yet acutely aware that the situation is fraught with difficulty. If they can acknowledge these realities together, they will have created a common narrative that has meaning to them both and may help to sustain them going forward.

REFERENCES

1. The National Center for Addiction and Substance Abuse at Columbia University (CASA Columbia). *Addiction Medicine: Closing the Gap Between Science and Practice*. CASA Columbia; 2012. Accessed February 5, 2020. https://www.centeronaddiction.org/addiction-research/reports/addiction-medicine-closing-gap-between-science-and-practice
2. Macy B. *Dopesick: Dealers, Doctors, and the Drug Company That Addicted America*. Little Brown and Company; 2018.
3. Smith M, Segal J, Robinson L. Suicide prevention. HelpGuide.org website. Published 2019. Accessed February 5, 2020. https://www.helpguide.org/articles/suicide-prevention/suicide-prevention.htm
4. Lautieri A. Drug and alcohol withdrawal symptoms, timelines, and treatment. withdrawal timelines treatments. Published 2020. Accessed May 1, 2020. https://americanaddictioncenters.org/withdrawal-timelines-treatments
5. National Institute on Drug Abuse. Overdose death rates. Published March 10, 2020. Accessed May 1, 2020. https://www.drugabuse.gov/related-topics/trends-statistics/overdose-death-rates
6. Ronan M, Herzig S. Hospitalizations related to opioid abuse/dependence and associated serious infections increased sharply, 2002–12. *Health Aff*. 2019;35(5):832-837. doi:10.1377/hlthaff.2015.1424
7. Bebinger M. The case for sending drug users home from the hospital with open iv lines. NPR.org. Published February 20, 2020. Accessed February 20, 2020. https://www.npr.org/sections/health-shots/2020/02/20/798894947/trusting-injection-drug-users-with-iv-antibiotics-at-home-it-can-work
8. Suzuki J, Johnson J, Montgomery M, Hayden M, Price C. Outpatient parenteral antimicrobial therapy among people who inject drugs: a review of the literature. *Open Forum Infect Dis*. 2018;5(9):ofy194. doi:10.1093/ofid/ofy194
9. Barton R. Should we legislate a duty to rescue? *The Crime Report, Center on Media, Crime and Justice at John Jay College*. Published 2017. Accessed October 15, 2019. https://thecrimereport.org/2017/08/10/should-we-legislate-a-duty-to-rescue/
10. Weinrib E. A case for a duty to rescue. *Yale Law Review*. 1980; 90(2):247-293.
11. Beauchamp T, Childress J. *Principles of Biomedical Ethics*. 8th ed. Oxford University Press; 2019.
12. American Nurses Association. *Code of Ethics For Nurses With Interpretive Statements*. American Nurses Association; 2015. https://www.nursingworld.org/practice-policy/nursing-excellence/ethics/code-of-ethics-for-nurses/coe-view-only
13. Butts J, Rich K. *Nursing Ethics: Across the Curriculum and into Practice*. 5th ed. Jones and Bartlett; 2019:38-39.
14. Chapple H. *No Place for Dying*. Left Coast Press; 2010.
15. Subbe C, Welch J. Failure to rescue: using rapid response systems to improve care of the deteriorating patient in hospital. *Clin Risk*. 2013;19(1):6-11. doi:10.1177/1356262213486451
16. Hess J. Gadow's relational narrative: an elaboration. *Nurs Philos*. 2003;4:137-148.
17. National Alliance of Advocates for Buprenorphine Treatment. The words we use matter–reducing stigma through language. addiction stigma language: the words we use matter. Published 2008. Accessed February 4, 2020. https://www.naabt.org/documents/NAABT_Language.pdf
18. US Dept of Health and Human Services; 2019. Giroir B. Substance misuse, infectious disease, and the powerful potential of syringe service programs. Accessed February 4, 2020. https://www.hhs.gov/blog/2019/11/06/substance-misuse-infectious-disease-powerful-potential-syringe-service-programs.html.
19. Braun A. Digital nudges: technologies that help us to make improved decisions and build better habits. Published January 22, 2019. Accessed May 3, 2020. https://www.maketecheasier.com/digital-nudges-technologies-build-better-habits/