

## QUESTION

# Does technology have a place in the art and science of oncology nursing?

**Suzanne Carroll, MS, RN, AOCN®**, is a clinical nurse manager at Roswell Park Comprehensive Cancer Center in Buffalo, NY. The author takes full responsibility for this content and did not receive honoraria or disclose any relevant financial relationships. Carroll can be reached at [suzanne.carroll@roswellpark.org](mailto:suzanne.carroll@roswellpark.org), with copy to [CJONEditor@ons.org](mailto:CJONEditor@ons.org).

Oncology nurses establish relationships with patients from diagnosis through the trajectory of their treatment, survivorship, and sometimes death. We convey empathy, support, and advocacy throughout the course of the disease, and in doing so, we employ the essential art of nursing.

Nursing has long been recognized as an art and a science. Scientific knowledge is essential to nursing; nurses must know the pathophysiology of diseases and the pharmacokinetics of medications used to treat them. The art of nursing involves applying this knowledge with empathy and compassion.

Recently I have been deliberating if technology should be added to the art and science of nursing. Technological advancements have been merging into nursing practice as quickly as they are developed. These tools collect data and information at a rapid pace, challenging us to determine how much can and should be incorporated into patient care considerations and decisions. Nursing has adapted to these innovations as an integral component of the nursing care we render.

Yet technology is likely not what we signed up for when we embarked on our oncology nursing careers. Although technology provides important data, it also can detach nurses from actual contact with patients. When I first became a nurse, I took blood pressures manually with a sphygmomanometer. Obtaining a blood pressure necessitated touching patients and observing their skin. Any number of details could be garnered just by applying the cuff. Simultaneously, I could observe my patients' facial expressions, which may reveal pain, discomfort, fear, or angst. I listened raptly for the Korotkoff sounds, which could be

loud and bounding or low and thready. Sometimes if it was too faint, I would palpate the blood pressure instead of listening for it. This simple task provided me with invaluable clinical information.

Contrast this to the more common way of measuring a patient's blood pressure today. I put the disposable cuff on the patient, snap the pulse oximeter on a finger, turn away, and press start on the machine. When the machine beeps, I remove the cuff and oximeter, and record the data in the computer. Both methods provide the data we need, but one captures the data through detached technology and the other through touch and the use of our senses. When we obtain patient information only through technology, we may miss the opportunity for direct observation, patient contact, and human connection.

Human connections, such as caring nurse-patient relationships, can lead to molecular changes, including enhanced neuron synapse activity, oxytocin release, and communal sharing of gut microbiota, which can profoundly influence mental and physiological health (Herd et al., 2018).

Technology is here to stay. How effectively it is incorporated into nursing educational curricula remains to be seen. High-tech simulations are already used in nursing schools to prepare students for real-world scenarios. We need to ensure that any innovations

do not overshadow the importance of cultivating the art of nursing care. Technology must be used as a tool to enhance individualized patient care rather than a substitute for authentic patient connections through observation, touch, empathy, and compassion. These skills can only be accomplished through the art of nursing.

## RESOURCES

- **Clinical Journal of Oncology Nursing**  
Details technology and humanity in medicine  
<https://bit.ly/3xzoj1G>
- **Oncology Nursing Podcast**  
Discusses nursing's role in artificial intelligence in health care  
<https://bit.ly/3xsoADE>
- **ONS Voice**  
Provides information on the oncology nurse-patient relationship  
<https://bit.ly/45Q4kbl>

## REFERENCE

- Herd, P., Palloni, A., Rey, F., & Dowd, J.B. (2018). Social and population health science approaches to understand the human microbiome. *Nature Human Behavior*, 2(11), 808–815. <https://doi.org/10.1038/s41562-018-0452-y>

## KEYWORDS

art; oncology nursing; science; technology; therapeutic relationships

## DIGITAL OBJECT IDENTIFIER

10.1188/24.CJON.432