Elite Learning Podcast

# Beyond the Fear:

## Understanding AI in Healthcare and Nursing

*From EKG algorithms to large language models — a practical, honest guide to AI for nurses and nurse practitioners*

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## Featured Voices

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|---|---|
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## What You'll Learn

- How AI has been used in healthcare for 30–40 years — and what changed when large language models (LLMs) arrived
- Why the research on AI in clinical practice is always running behind the technology — and what that means for how we use it
- How AI is currently being used by bedside nurses, nurse practitioners, and radiologists — and where it is most accurate
- The three pathways through which AI impacts clinical care: diagnostics, documentation, and patient education
- Why AI is better at differential diagnosis than primary diagnosis — and how that changes how clinicians should use it
- How AI accelerates learning for novice nurses and clinicians — and what the research shows about knowledge retention
- The ethical responsibilities of nurses and nursing faculty when using and teaching AI
- How to identify and check for AI bias — and why it matters as much as our own personal bias
- Why the question of AI replacing nurses misses the point — and what the real opportunity is
- How to start using AI today: the one mindset shift that changes everything about how you interact with it
- What emerging AI technologies — predictive modeling, robotics, LLMs — are worth watching in healthcare
- Why human connection remains irreplaceable in healthcare — and the risks of over-relying on AI

## Key Takeaways

- **AI in healthcare is not new — but LLMs changed everything:** AI has been used in healthcare since the 1980s (EKG interpretation, radiology flagging). What changed with ChatGPT and large language models is accessibility — anyone can now ask questions in plain language and get refined, nuanced answers.
- **The research is always behind the technology:** Studies published in 2026 are still based on ChatGPT-4, which was discontinued months ago. We are already at GPT-5.5. This means clinicians cannot wait for peer-reviewed RCTs to guide every decision — they must develop their own informed judgment about AI use.
- **AI is most accurate for differential diagnosis, not primary diagnosis:** Current research shows AI is approximately 70–74% accurate for primary diagnosis — but significantly stronger when helping clinicians think through what else could be going on. It is a thinking partner, not a diagnostic replacement.

- **Training on AI dramatically improves outcomes:** Research consistently shows that people trained on how to prompt AI, identify bias, and evaluate outputs are far more accurate in their final decisions — whether clinical or academic. Untrained users have significantly higher error rates.
- **AI speeds novice clinicians to competence:** A study on customer service reps (a proxy for clinical settings) found that AI shortened the time to expert-level performance by approximately 60% for new employees — while having minimal impact on experienced staff. The same pattern is emerging in healthcare.
- **For bedside nurses, AI's biggest immediate value is documentation and patient education:** AI can transcribe and summarize clinical conversations, reduce charting burden, and provide patients with real-time, accurate answers to their questions — freeing nurses to spend more time on direct care.
- **AI bias is real and must be actively checked:** AI pulls from data entered by humans — who carry their own biases. Closed EMR-based systems may be safer but are often behind on the latest research. Open LLMs have more data but require more critical evaluation of outputs.
- **Ask AI to teach you, not tell you:** The single most important mindset shift for using AI effectively. Asking 'teach me what this is and why' instead of 'tell me the answer' produces dramatically better learning outcomes and longer knowledge retention.
- **AI certifications may have a short shelf life:** Given how rapidly models evolve, even a $5,000 Harvard Medical School AI certification may lose relevance within 2–3 years. If pursuing formal AI training, choose programs from institutions with significant credibility and rigor.
- **Human connection in healthcare is irreplaceable — for now:** AI cannot replicate genuine empathy, which comes from lived experience. The risk of AI-driven isolation — patients self-treating without human interaction — mirrors the loneliness epidemic already underway. A human must remain close in the care loop.
- **Predictive modeling is the next frontier:** The most exciting near-term application of AI in healthcare is predictive modeling — using large patient data sets to flag things clinicians may have missed, especially as experienced providers can become blinded by their own pattern recognition.
- **Legislation has not caught up — and that tension is real:** HIPAA, prescribing authority, and data ownership laws were not written for AI. The challenge is balancing legislation that protects patients without slowing beneficial adoption. This will be one of the defining policy debates of the next decade.

## Do This Next

- ☐ Open Claude, ChatGPT, or Gemini today and try this prompt: 'Teach me [topic relevant to your specialty] — ask me questions to help me understand it rather than just giving me the answer.'
- ☐ The next time you use AI for a clinical or educational question, ask it to give you the differential — not just the answer. Notice what it surfaces that you hadn't considered.
- ☐ Identify one documentation or charting task in your current role that AI could assist with. Research whether your organization's EMR has an AI transcription or summarization tool already available.
- ☐ If you are a nursing faculty member or educator, review your current AI policy. Is it focused on preventing cheating — or on teaching responsible, effective AI use? Consider updating it.
- ☐ Ask your organization: 'Do we have an approved AI tool for clinical use? Is there training available on how to use it safely and effectively?'
- ☐ Explore whether your specialty nursing organization has published any guidance or position statements on AI use in your practice area.
- ☐ The next time you receive AI output — clinical or otherwise — pause and ask: 'What bias might be embedded in this response? What perspective is missing?'
- ☐ If you are a new nurse or new NP, consider using an AI model as a study partner during your orientation or residency — ask it to quiz you, challenge your reasoning, and explain concepts you are unsure about.

- ☐ Research the Harvard Medical School AI in Healthcare program or similar offerings from credentialed institutions if you want formal AI training — and weigh the cost against the likely shelf life of the credential.
- ☐ Reflect on Dr. Heidesch's closing challenge: Are you asking AI to tell you things — or to teach you? Make the shift.

## ? 3 Quick AI Readiness Questions

*Use these to reflect on your own AI readiness — or to open a team conversation about responsible AI adoption in your practice setting:*

1. **Current use check:** "Am I already using AI in my practice or education — even informally? If so, have I ever been trained on how to prompt it effectively, identify its biases, or evaluate the accuracy of its outputs?"
2. **Bias awareness:** "Think of the last time you used an AI tool. Did you accept the output at face value — or did you critically evaluate it for potential bias, missing perspectives, or inaccuracies? What would it look like to build that habit consistently?"
3. **Learning vs. output:** "When I use AI, am I asking it to give me answers — or to help me think? What would change about my practice or my learning if I consistently asked AI to teach me rather than tell me?"

## Red Flags & Cautions

- A nurse or clinician uses AI output without critically evaluating it for bias, accuracy, or missing perspectives — treating it as a definitive answer rather than a starting point
- A nursing program or healthcare organization bans AI entirely rather than teaching responsible, effective use — leaving nurses unprepared for a tool they will encounter in every practice setting
- A clinician uses AI for primary diagnosis without understanding that current accuracy rates are approximately 70–74% — and that human judgment remains essential
- Patient data — even de-identified — is entered into an open AI system without understanding the organization's HIPAA compliance policies or the AI platform's data storage practices
- A nurse or student uses AI only for output (e.g., 'write my care plan') without engaging with the reasoning — producing work they cannot explain or defend
- An organization adopts a closed, EMR-integrated AI system and assumes it is current — without recognizing that closed systems may lag significantly behind the latest research
- A nurse or NP becomes over-reliant on AI for clinical decision-making without maintaining and developing their own independent clinical reasoning skills
- AI is used as a substitute for human interaction in patient care — particularly in mental health, end-of-life, or emotionally complex situations where empathy and presence are irreplaceable
- A healthcare organization or nursing program pursues AI adoption without a plan for ongoing training, bias awareness education, or policy updates as models rapidly evolve
- A nurse dismisses AI entirely as 'not for bedside nursing' — missing the immediate, practical applications in documentation, patient education, and clinical decision support that are already available

## AI in Healthcare Spotlight

- ★ **AI Has Been in Healthcare Since the 1980s:** The 12-lead EKG interpretation algorithm is one of the earliest examples of AI in clinical practice — flagging potential findings for clinician review since the 1980s. Radiology AI that highlights areas of concern on chest X-rays and CT scans followed. What changed with large language models is not the presence of AI in healthcare, but its accessibility and conversational capability.
- ★ **LLMs vs. Clinicians — What the Research Actually Shows:** Studies comparing LLM performance to physicians and nurse practitioners in controlled scenarios show that LLMs alone can outperform clinicians in some research contexts — but that trained clinicians using AI outperform both. The key variable is training: those who know how to prompt AI, evaluate its outputs, and check for bias consistently achieve the most accurate results.

★ **The 60% Faster Expertise Window:** Research on AI-assisted customer service representatives (a proxy for clinical settings) found that novice employees using AI reached expert-level performance approximately 60% faster than those without AI support — and retained that knowledge. For experienced staff, AI had minimal impact on performance. This pattern is emerging in healthcare: AI is most transformative for newer nurses and clinicians building their clinical reasoning.

★ **Predictive Modeling — The Next Frontier:** Dr. Heidesch identifies predictive modeling as the most promising near-term application of AI in healthcare: using large patient data sets to surface patterns and flag concerns that experienced clinicians — who can become blinded by their own pattern recognition — might miss. This is particularly relevant as nursing shortages leave units with fewer veteran nurses to serve as informal safety nets.

★ **The AI Certification Question:** Formal AI certifications (e.g., Harvard Medical School's AI in Healthcare program, approximately $5,000 and 20 weeks) offer structured, rigorous training — but may lose relevance within 2–3 years as models evolve. Dr. Heidesch's recommendation: if pursuing formal training, choose programs from institutions with significant credibility. For most nurses, consistent hands-on use with intentional prompting practice is the most accessible and durable path to AI competence.

## Conversation Starter

*"Think about the last clinical decision you made that felt uncertain. What would it have looked like to ask an AI model — not for the answer, but to help you think through the differential, surface what you might be missing, and challenge your reasoning? What would you have done differently — and what does that tell you about where AI fits in your practice?"*

**Nurse Leaders & Educators:** Consider hosting a team or faculty conversation around: "What is our current AI policy — and is it focused on preventing misuse, or on building competence? What would responsible AI integration look like on our unit or in our program?" Use the responses to identify gaps in training, policy, and culture.

## Resources & Links

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