AI literate GP training

A discussion with trainer and former examiner Nicky Turner and Clinitalk lead Nic Boeckx

Conflicts of interest: full declaration

Nature: Financial and professional

Clinitalk was formed as a company to access Innovate UK grant funding. Its purpose is to support GP education and research into GP education. The GP team do not receive an income from Clinitalk.

The running costs associated with processing, maintaining, developing and certifying are recouped from subscriptions / consultation skills courses.

This session — 50 minutes

- 🕐 Where we are now — your trainees are already using AI (5 min)
- 🔍 What AI literacy means — prompts, tools and critical use (10 min)
- ⚠️ Risks and benefits — deskilling, never-skilling, portfolio (10 min)
- 🛠️ DEFT-AI — a practical supervision framework (15 min)
- ✅ Practical actions you can take (7 min)
- 💬 Questions and close (3 min)

Your trainees are already using AI.

- Over a quarter of UK GPs report using AI tools in clinical practice — most without formal training *RCGP / Nuffield Trust, 2025*
- In one regional pilot, over 60% of GP trainees were already using general purpose AI informally — without structure, governance or trainer awareness *Health Innovation KSS / CMEfy pilot, 2025*

- *This session is about changing that.*

What AI tools are you already using?

Over 28% of UK GPs now use AI tools at work (RCGP/Nuffield Trust, 2025)

Type in the chat

What tools do you use to help clinical problems eg clinical calculators /ECG interpretation

What types of thinking aids have you come across?

Drop one thinking aid in the chat

How are GP registrars already using AI?

28% of UK GPs now use AI tools in clinical practice — most without formal training (RCGP / Nuffield Trust, 2025)

"What guidance is there for trainees about using AI safely? Please add thoughts to the chat

AI tools GP trainees are already using

- *Over 60% of GP trainees already use general purpose AI informally, without structure, governance or trainer awareness (Health Innovation KSS / CMEfy pilot, 2025)*

Tool type	Example	How trainees use it
AI clinical scribe	Heidi	Automated consultation notes
Clinical decision support (UK)	Medwise AI	Point-of-care NICE / guideline queries
Clinical decision support (global)	Open Evidence	Evidence summaries, differentials
Consultation feedback	CliniTalk	Feedback on real or simulated consultations
Virtual patient / simulation	Geeky Medics	SCA and OSCE practice, history taking
MCQ / knowledge testing	IATrox	Exam revision, knowledge recall
CPD microlearning	Praktiki	Bite-sized daily clinical updates
Reflective log writing	14 Fishermen	Portfolio and learning log entries
CPD logging with AI prompts	Learner+	Structured reflection, integrates with FourteenFish
General purpose LLM (informal)	**ChatGPT, Claude**	**Differentials, reflections, summaries — unstructured**

Professional guidance on AI use

- Doctors remain responsible for clinical decisions even when using digital tools or AI.
- Key principles:
- • Maintain clinical judgement
  • Verify AI outputs
  • Protect patient confidentiality
  • Understand limitations of tools
  • Use AI to support (not replace) thinking

- Sources:
  GMC Good Medical Practice (2024)
  RCGP position on AI in general practice
- CQC GP Mythbuster 109: Use of AI in GP services (2025)

Safe use: confidentiality and data protection

- **Safe use of AI in GP training**
- When using AI tools for learning:
- Do not enter
  - identifiable patient information
  - NHS numbers
  - full clinical notes
- Use instead
  - anonymised cases
  - simulated cases
  - educational prompts

Limitations of generative AI in healthcare

- **AI hallucinations** – models may generate inaccurate or misleading clinical information

- **Over-reliance on AI / automation bias** — uncritical acceptance of AI outputs can undermine clinical judgement and lead to diagnostic or treatment errors. The NHS England AI capability framework identifies automation bias, anchoring and confirmation bias as key risks for clinical users (NHS England DART-Ed, 2023)

- **Algorithmic bias** – AI systems may reproduce racial or gender bias present in training data

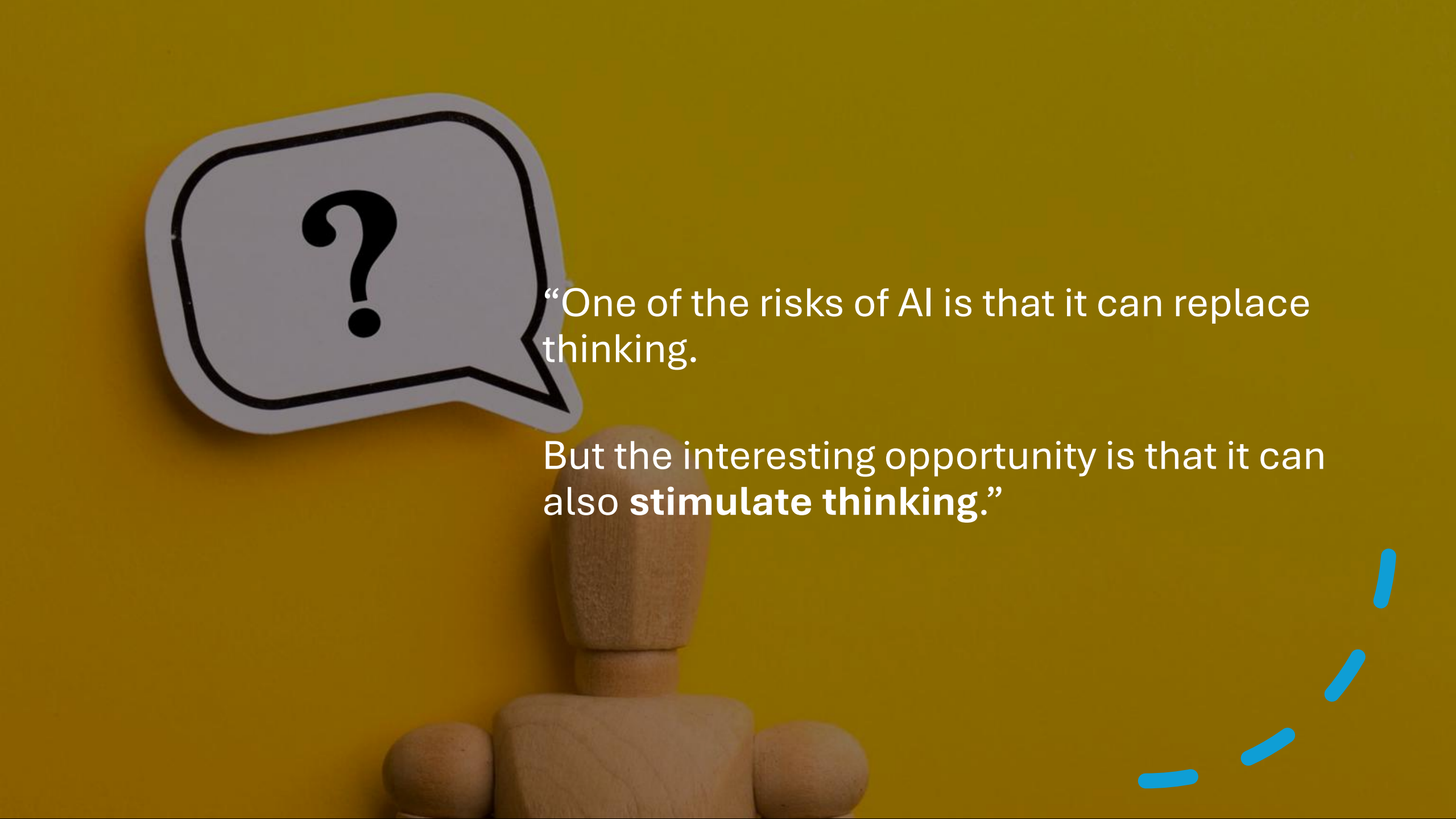
- **Data privacy concerns** – many AI tools are developed by commercial companies raising issues around handling sensitive health data

- **Need for clinical oversight** – AI should support, not replace, clinician reasoning and expertise

- **Differential attainment risk** — AI tools may widen existing attainment gaps. Trainees whose first language is not English may be less able to identify poor AI-generated content, and may not benefit equally from tools trained predominantly on English-language data (RCGP, 2024)

- **However** — used thoughtfully, AI may also offer opportunity: a low-stakes environment to practise consultation language and structure, potentially supporting IMGs and trainees who find traditional reflective writing challenging

Rahmanti AR, Iqbal U, Reddy S, et al.
Generative artificial intelligence (AI): a key innovation or just hype in primary care settings?
BMJ Health & Care Informatics. 2024;31:e101367.


“One of the risks of AI is that it can replace thinking.
But the interesting opportunity is that it can also **stimulate thinking**.”

Educational benefits

- **1. Knowledge recall**
  - rapid differential diagnoses
  - guideline summaries
- **2. Simulation learning**
  - role play consultations
  - exam preparation
- **3. Feedback**
  - note writing
  - consultation skills
- **4. Cognitive off-loading**
- **5. Access and equity**
- low-stakes practice environment for IMGs
- consultation language and structure practice

Educational risks

- **1. Deskilling — loss of existing skills through over-reliance on AI**
- **2. Never-skilling — learners never develop the skill in the first place**
- **3. Mis-skilling — learning incorrect habits from AI errors or bias**

Type of AI use	Risk level	Example
Decision replacement	High	AI making diagnoses
Decision support	Medium	differential diagnosis suggestions
Reflection & learning support	Low	Stimulating refection in consultation feedback

Why critical thinking matters more than ever

AI doesn't remove thinking — it **makes thinking more important.**

Prompting shapes the answer

- Large language models predict the most likely next word based on the context you give them.
- A vague prompt gives almost no context — so the model fills the gap with the most generic response. That response may be plausible, confident, and wrong.
- The less context you provide, the higher the risk of hallucination.
- *Weak prompt:* ‘Give me an outline for a tutorial on asthma’
- *Better prompt:* ‘ I am a GP educator planning a 30-minute tutorial on asthma with an ST2 registrar who is struggling to know when to use SABA versus MART. Include one clinical scenario and two questions to test their understanding. Reference NICE and CKS guidance’

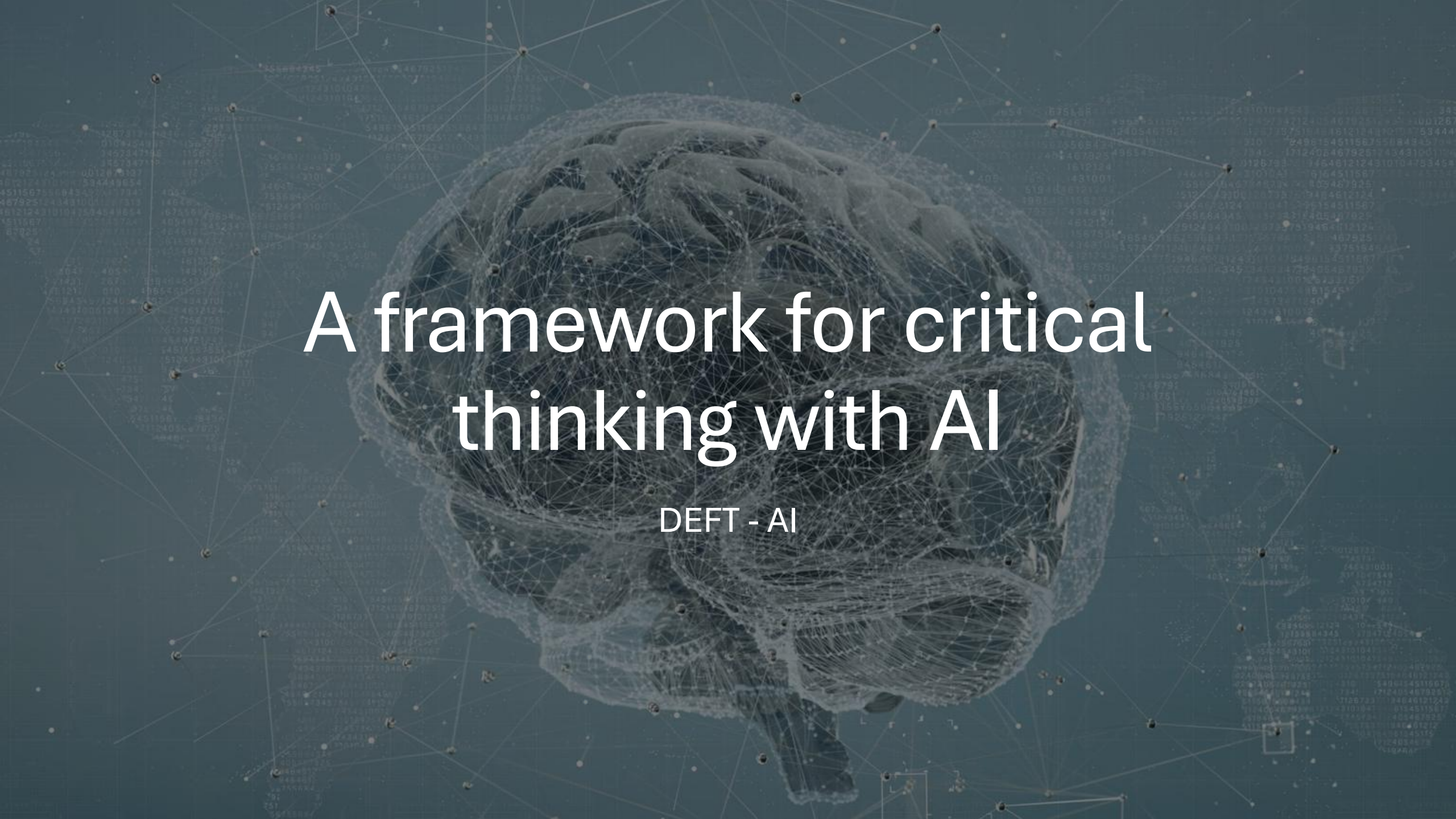
Writing better prompts and help to do it

- A useful formula: **Role — Task — Context — Output**
- Give the AI a role. Describe the task. Add the context that matters. Say what you want the output to look like.
- Two things worth knowing:
- You can ask AI to **improve your prompt** — paste a weak prompt and ask *"rewrite this so it produces a better structured GP tutorial"*
- You can ask AI to **teach you** — *"what would make this a better prompt?"*
- *Prompt writing is just structured thinking.*

Question ?

- **Have you ever asked a trainee whether they used AI — in a CBD, a CAT, a management plan, or a portfolio entry?**

- (yes / no / not yet)



A framework for critical thinking with AI

DEFT - AI

DEFT-AI framework

Step	Key question	Purpose
D – Diagnosis	What did the trainee think **before AI**?	Protect clinical reasoning
E – Evidence	What evidence supports the AI output?	Verify accuracy
F – Feedback	What did AI add or miss?	Encourage reflection
T – Teaching	What should the trainee check or learn?	Turn it into a teaching moment

Diagnosis

- What do **you** think the diagnosis is?
- What differential did you generate before AI?

Goal: ensure AI **supports** reasoning rather than replacing it.

Evidence

- What evidence supports this diagnosis /treatment plan etc ?
- Does the AI output align with clinical reasoning and guidelines?
- Can you justify your reasoning and explore alternative hypotheses?

Goal: verify AI suggestions using evidence-based clinical reasoning.

Feedback

Encourage reflection:

- Did the AI add something useful?
- Did it change your thinking?

Teaching

Discuss:

- strengths of the AI output
- weaknesses
- what the trainee should verify.

DEFT-AI Example

Your ST2 presents a 58-year-old with fatigue and mentions she "checked it on ChatGPT first" which suggested anaemia, hypothyroidism and depression.

Add to the chat what you would ask ?

D — Diagnosis

E — Evidence

F — Feedback

T — Teaching

Practical tips for GP trainers

1 – Assume trainees already use AI

2 – Ask about AI use openly

- Did you use any digital tools or AI when thinking about this case?
- What had you thought yourself about the diagnosis or treatment plan?

3 – Teach verification

What evidence supports or contradicts the AI answer?

What would you check before acting on the AI answer ?

- AI suggestions must be checked against:
  - guidelines
  - clinical reasoning
  - patient context

4 – Protect diagnostic reasoning

Learners should:

- think first
- use AI second
- verify third.

- **Did the AI output change your thinking?**
  Promotes reflection on cognitive influence.

You don’t need to be an AI expert

This is NOT asking you to:

- Understand how large language models work
- Know every tool your trainee uses
- Become a technology supervisor

It IS asking you to:

- Use the supervision skills you already have
- Notice when a trainee’s reasoning feels borrowed rather than owned
- Ask curious questions about how AI was used — the same skill you bring to case reviews and tutorials
- Teach critical thinking — the same skill you have always taught

“What did you think before you used AI?”

Practical actions for educators

Questions you already ask:
What were your differentials?
What evidence supports that?
"What guideline did you use?

With AI, add:
What did you tink before you asked AI ?
What did the AI say?
Do you agree with it?
What might it have missed?

AI supervision = clinical reasoning supervision

•Trainee thinks first, uses AI second, verifies third

Free NHS e-learning: **Essentials of Digital Clinical Safety** and **AI in Healthcare catalogue** — both free to NHS staff via e-LfH / NHS Learning Hub (e-lfh.org.uk)

AI eportfolios and ARCP

The RCGP (2024) states that ARCP panels should explore CCR learning log entries where there are concerns about the authenticity of the underlying case or the quality of learning.

AI can help with drafting but using it to generate reflections without real patient experience undermines the purpose of WPBA .

Registrars are not required to declare AI use (currently)

And for you and your practice

- For your own CPD and appraisal
- AI can help you prepare and prompt reflection
- It should not write your reflections for you
- Declare any AI use to your appraiser Source: RCGP — Using generative AI in appraisal preparation, January 2026

- For your practice
- Check your practice has an AI use policy
- If you use tools like Heidi is this covered at induction?
- Add AI use to your induction checklist for new trainees

Returning to our objectives : can you now?

- Describe how registrars are using AI and why it matters? ✓
- Apply DEFT-AI to a case-based teaching moment? ✓
- Name the key risks including deskilling and never-skilling? ✓
- Add to chat one action you will take from this? → *Over to you*

Key resources mentioned today

- **Frameworks and guidance**
- DEFT-AI framework — Abdulnour et al., *NEJM* 2025
- NHS England AI & Digital Healthcare Technologies Capability Framework (DART-Ed, 2023)
- RCGP statement on AI in general practice (updated 2024)
- RCGP — Using generative AI in appraisal preparation (January 2026)
- GMC Good Medical Practice (2024) — digital tools and AI

- **Free NHS e-learning**
- Essentials of Digital Clinical Safety — e-LfH / NHS Learning Hub (e-lfh.org.uk)
- AI in Healthcare catalogue — NHS Learning Hub

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