Closing The Practice To Theory Gap

Connecting the Classroom to the Clinic

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What is the Classroom- to-Practice Gap?

A practice gap is a *discrepancy found between what students learn in the classroom setting and competent performance (or practice) in the clinical settings.*

Knowledge – does not know what is *MOST IMPORTANT*

Skill – learner *knows* steps for test but *cannot perform*

Practice – does not *act independently* or *apply consistently*

Why Does This Happen?

- Infobesity
- Everything feels equally important
- Traditional textbooks = heavy content, limited context
- Death by PowerPoint
- "We've always done it this way" mindset
- "One and Done" content coverage
- Learning is passive or isolated
- Poor linkage between theory and practice
- Remembering vs. Understanding vs. Applying

Why is Closing the Gap Important?

Risks

- **Learning lacks relevance and depth**
  - Limits growth beyond the classroom

- **Patients have poor outcomes**
  - Delay in care
  - Inadequate care
  - Permanent Disability, Death

- **Lack of trust**
  - Peers | Employers | Patients | Public | Self

- **Poor Health and Well-being**
  - Anxiety
  - Low Self-Esteem
  - Incivility - Bullying
  - Job Dissatisfaction
  - Fear of loss of job

Benefits

- **Learning is relevant and enduring**
  - Promotes continuous, lifelong growth

- **Patients have good outcomes**
  - Timely care
  - Quality care
  - Save Lives

- **Trust and Confidence**
  - Peers | Employers | Patients | Public | Self

- **Positive Sense of Self and Well-being**
  - Confidence
  - Pride
  - Civility
  - Job satisfaction
  - Growth

Bridge-Building Strategies:

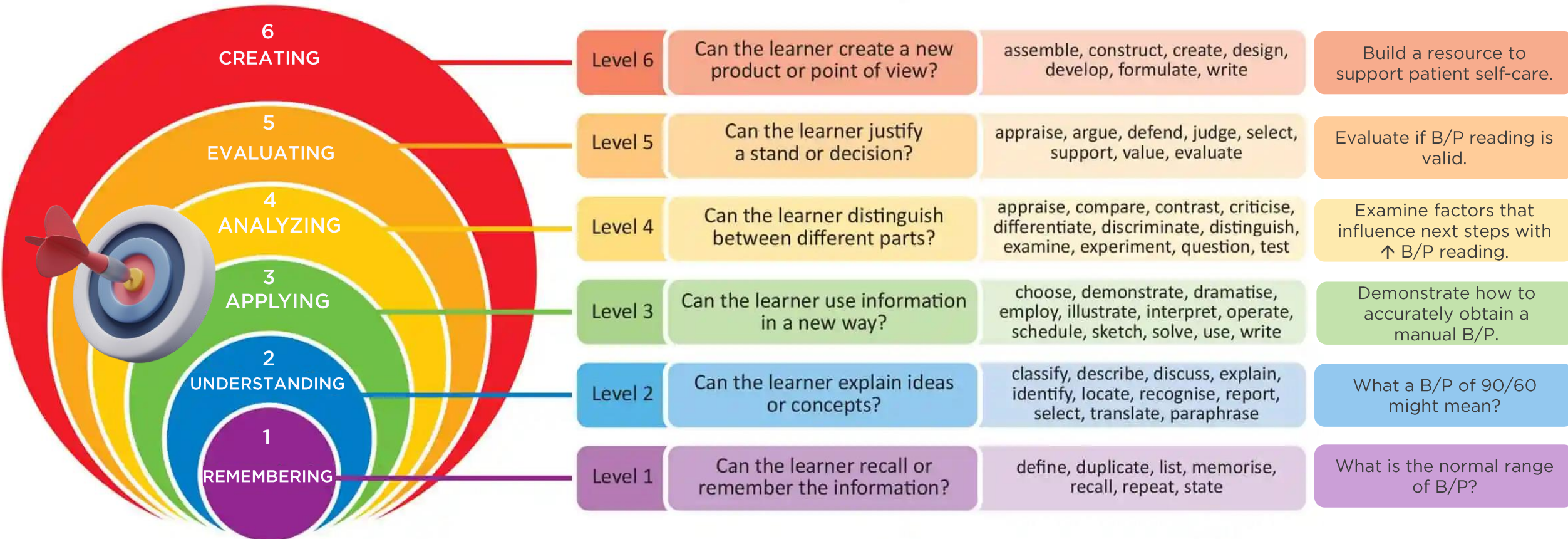|	
📶	**Knowing Levels of Learning**
💬	**Knowing What's Important**
📖➕	**Connecting the Classroom to the Clinic**
🕐	**Providing the Right Content at the Right Time – Over Time**

"

I hear and I forget.
I see and I
remember.
I do and I
understand.

Confucius

Bloom's Taxonomy – Understanding Levels of Learning

Bloom's taxonomy

6 CREATING	Level 6	Can the learner create a new product or point of view?	assemble, construct, create, design, develop, formulate, write	Build a resource to support patient self-care.
5 EVALUATING	Level 5	Can the learner justify a stand or decision?	appraise, argue, defend, judge, select, support, value, evaluate	Evaluate if B/P reading is valid.
4 ANALYZING	Level 4	Can the learner distinguish between different parts?	appraise, compare, contrast, criticise, differentiate, discriminate, distinguish, examine, experiment, question, test	Examine factors that influence next steps with ↑ B/P reading.
3 APPLYING	Level 3	Can the learner use information in a new way?	choose, demonstrate, dramatise, employ, illustrate, interpret, operate, schedule, sketch, solve, use, write	Demonstrate how to accurately obtain a manual B/P.
2 UNDERSTANDING	Level 2	Can the learner explain ideas or concepts?	classify, describe, discuss, explain, identify, locate, recognise, report, select, translate, paraphrase	What a B/P of 90/60 might mean?
1 REMEMBERING	Level 1	Can the learner recall or remember the information?	define, duplicate, list, memorise, recall, repeat, state	What is the normal range of B/P?

Bloom's Taxonomy Example: *Blood Pressure Measurement*

1. **Remembering**
   What is the normal range for adult blood pressure?
   → Recall factual information.

2. **Understanding**
   What does it mean when a patient's BP is 90/60?
   → Explain what the numbers indicate.

3. **Applying**
   Demonstrate how to take accurate obtain a manual BP reading.
   → Use knowledge to inform action.

4. **Analyzing**
   A patient has a BP of 180/100. What factors should you consider before retaking the measurement or escalating care?
   → Break down and interpret a situation.

5. **Evaluating**
   A student takes a patient's BP reading as 120/70, but the patient says it's normally 98/60. How would you evaluate the accuracy of this reading and decide what to do next?
   → Judge and justify based on context.

6. **Creating**
   Design a patient education handout that explains how to accurately monitor BP at home, considering different literacy levels.
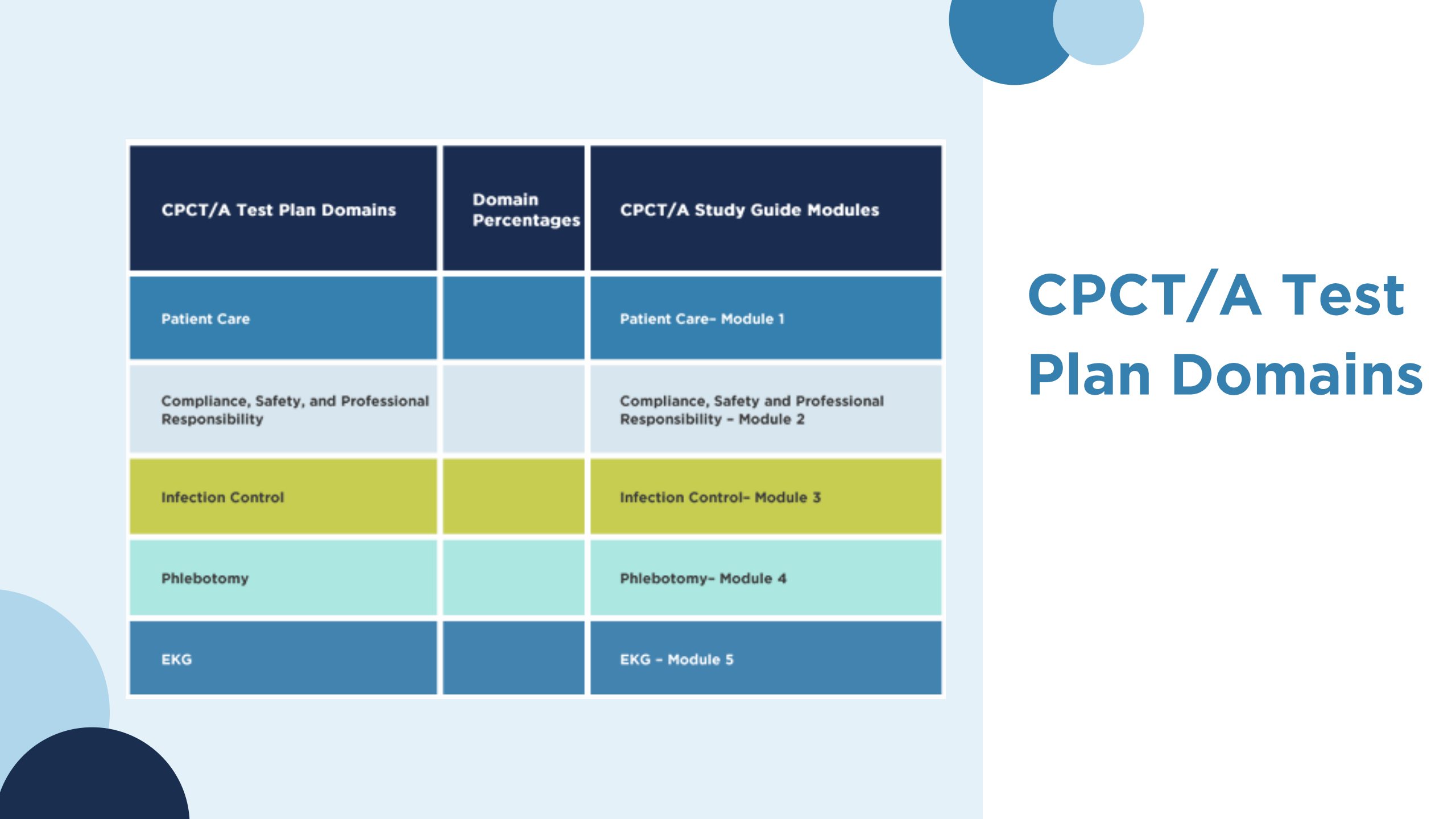   → Generate something new with clinical relevance.
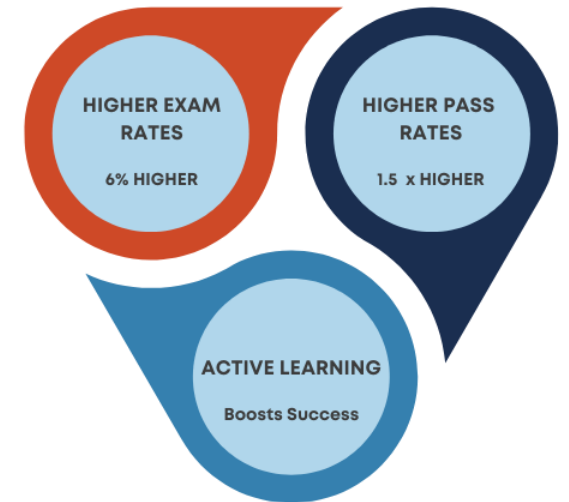
HOW DO YOU PRIORITIZE WHAT'S IMPORTANT?

CCMA Test Plan Domains

CCMA Test Plan Domains • Subdomains	Domain Percentages	CCMA 3.0 Study Guide Modules
Foundational Knowledge and Basic Sciences • *Health Care Systems and Settings* • *Nutrition* • *Basic Pharmacology*		Foundational Knowledge and Basic Science – Module 1
• *Medical Terminology*		Anatomy and Physiology – Module 2
Anatomy and Physiology		Anatomy and Physiology – Module 2
Patient Care Coordination and Education		Patient Care Coordination and Education – Module 10
Administrative Assisting		Administrative Assisting – Module 11
Communication and Customer Service		Communication and Customer Service – Module 12
Medical Law and Ethics		Medical Law and Ethics – Module 13

CCMA Test Plan Domains • Subdomains	Domain Percentages	CCMA 3.0 Study Guide Modules
Clinical Patient Care		
• Patient Intake and Vital Signs		Patient Intake and Vitals – Module 3
• General Patient Care		General Patient Care Part 1 – Module 4
		General Patient Care Part 2 – Module 5
• Infection Control		Infection Control and Safety – Module 6
• Testing and Laboratory Procedures		Point of Care Testing and Laboratory Procedures – Module 7
• Phlebotomy		Phlebotomy – Module 8
• EKG and Cardiovascular Testing		EKG and Cardiovascular Testing – Module 9

CPCT/A Test Plan Domains	Domain Percentages	CPCT/A Study Guide Modules
Patient Care		Patient Care– Module 1
Compliance, Safety, and Professional Responsibility		Compliance, Safety and Professional Responsibility – Module 2
Infection Control		Infection Control– Module 3
Phlebotomy		Phlebotomy– Module 4
EKG		EKG – Module 5

CPCT/A Test Plan Domains

CBCS Test Plan Domains	Domain Percentages	CBCS Study Guide Modules
The Revenue Cycle and Regulatory Compliance		The Revenue Cycle and Regulatory Compliance – Module 1
Insurance Eligibility and Other Payer Requirements		Insurance Eligibility and Other Payer Requirements – Module 2
Coding and Coding Guidelines		Coding and Coding Guidelines – Module 3
Billing and Reimbursement		Billing and Reimbursement– Module 4

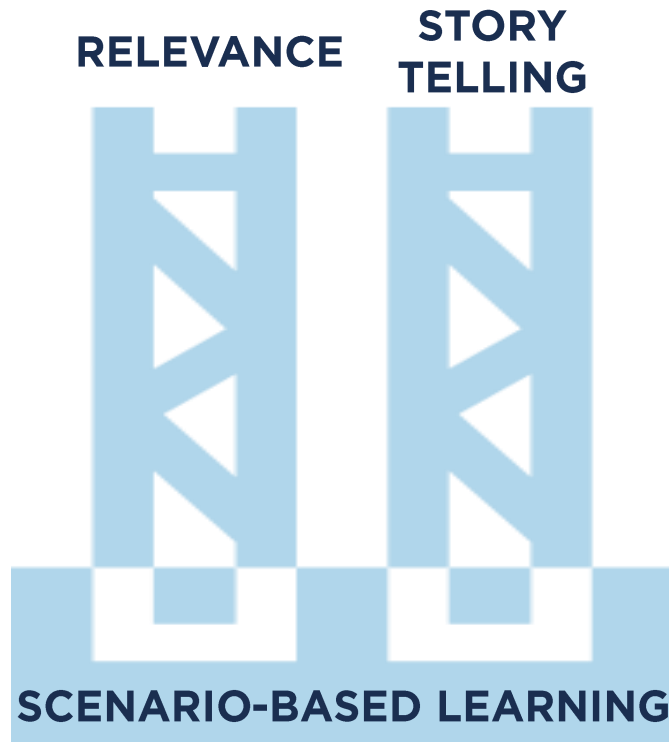# CBCS Test Plan Domains

Pro Tip: *Anchor Strategy to Priority*

- Backward plan from **real practice needs** before selecting activities

- Use **test plan domains and percentages** to guide focus

- Build in *how it will be assessed* (quiz, skill check, clinical practice, etc.)

- Students connect value when it's revisited in **testing** and in **care**

- Relevance isn't extra – it's how learning *sticks*

Does This Matter?

Relevance is generally related to 5 things:

#	
1	**BELIEVABLE**
2	**Improved** Patient **Outcomes**
3	**Decreased Harm**
4	**Frequency** of Tasks
5	**Urgency** of Tasks

Building a Bridge to Last

RELEVANCE   **STORY TELLING**

SCENARIO-BASED LEARNING

- *Relevance* and *Storytelling*: Scenario-Based Learning

- **Scenario-based learning** helps learners **see meaning** and make an **emotional connection** with the information they are learning – *this lasts*.

- Applying real-world scenarios moves learning from simple knowledge transfer to **transformative knowledge that is action-oriented and grounded in professional practice and identity**.

Exercise in Relevance

PROFESSIONAL RESPONSIBILITIES MODULE

Learning Objectives:

After completing this module, the Patient Care Technician student will be able to:

- Understand Importance of obtaining BLS certification

- Adhere to HIPAA regulations

- Use appropriate medical terminology

- Observe the chain of command

- Use therapeutic communication

- Two examples of knowing information to improve a patient's health outcomes?

- Two examples that could cause harm to the patient if unknown?

- Two examples of tasks that are performed frequently?

- Two examples of tasks that must be performed urgently?

Exercise in Relevance

IMPROVES OUTCOMES

BLS certification: Healthcare workers can respond to life-threatening emergencies, improving patient survival and recovery.

FREQUENT

Adhering to HIPAA: Securely storing, accessing, and transmitting patient information.

- Obtain BLS
- Adhere to HIPAA Regulations
- Use Appropriate Medical Terminology
- Observe Chain of Command
- Use Therapeutic Communication

POTENTIAL HARM

Inappropriate Use of Medical Terminology:

Miscommunication among healthcare team or with patients, leading to errors in diagnosis or treatment

URGENT

Applying BLS skills: Initiating CPR or using AID QUICKLY in emergencies to safe lives

Effects of Antihypertensive Medications: *Recognizing and Reporting Adverse Effects*

- **Risk Factors:**
  - Age (older adults)
  - Hypertension
  - Underlying heart conditions
  - Electrolyte imbalances
  - Certain medications (e.g., beta-blockers)

- **Most Likely Complication:**
  - Syncope (fainting)
  - Falls

- **Early Symptoms:**
  - Lightheadedness
  - Dizziness
  - Confusion
  - Weakness
  - Palpitations

- **Common Diagnostics:**
  - ECG
  - Holter/Event monitoring
  - Tilt-table test
  - Blood tests (electrolytes)

- **Common Treatments:**
  - Adjust or discontinue causative meds
  - Treat underlying causes
  - Pacemaker (severe cases)

- **Client Teaching:**
  - Prevent falls
  - Monitor heart rate
  - Medication adherence
  - lifestyle changes
  - When to report symptoms

Anchor Case: *Scenario Mapping for Relevance*

- Greatest Strengths

- Greatest Concern

- MOST COMMON risk factors:

- MOST COMMON diagnostics

- MOST COMMON treatments

- MOST LIKELY complications to anticipate

- EARLY symptoms of the complication

- Teaching to provide to the client

- Reinforces priority-based thinking

- Helps with Need To Know versus Nice To Know

- Anchors learning in practical, real-world care

MOST COMMON risk factors:

- Age (older adults have higher risk)
- Hypertension
- Underlying heart conditions
- Electrolyte imbalances
- Certain medications (e.g., beta-blockers)

John Smith, a 68-year-old male, presents to his primary care provider with a complaint of fatigue, dizziness, and occasional shortness of breath. After reviewing his medical history, which includes a diagnosis of hypertension, the provider notes that John has bradycardia, with a resting heart rate of 45 beats per minute.

MOST COMMON diagnostics:

- Electrocardiogram (ECG)
- Holter monitoring
- Event monitoring
- Tilt-table test
- Blood tests (to check for electrolyte imbalances)

MOST LIKELY complication to anticipate:

- Syncope (fainting) due to inadequate blood flow to the brain
- Fall due to loss of consciousness

MOST COMMON treatments:

- Adjusting or discontinuing medications causing bradycardia
- Treating underlying conditions
- Pacemaker implantation (in severe cases)

EARLY symptoms of the complication:

- Lightheadedness
- Dizziness
- Confusion
- Weakness
- Palpitations

Teaching to provide to the client:

- Preventing falls and injury
- When and how to monitor heart rate
- Signs and symptoms to report
- Importance of taking medications as prescribed
- Healthy lifestyle: diet, exercise, stress management
- Keep and share med list with all providers

Greatest Concern

Risk of fainting, heart failure, or chest pain due to insufficient oxygen supply to his organs and tissues, including his brain and heart.

Greatest Strengths

Adherence to medical advice and his willingness to make lifestyle changes to improve his health.

Anchor Case: *Scenario Mapping for Relevance*

Administrative- Focused

You are working as a billing and coding specialist at a medical facility.

You have been assigned a new patient case to work on. The patient is a 45-year-old male who came in for a routine physical exam.

After the exam, the doctor discovered that the patient had high blood pressure and prescribed metoprolol.

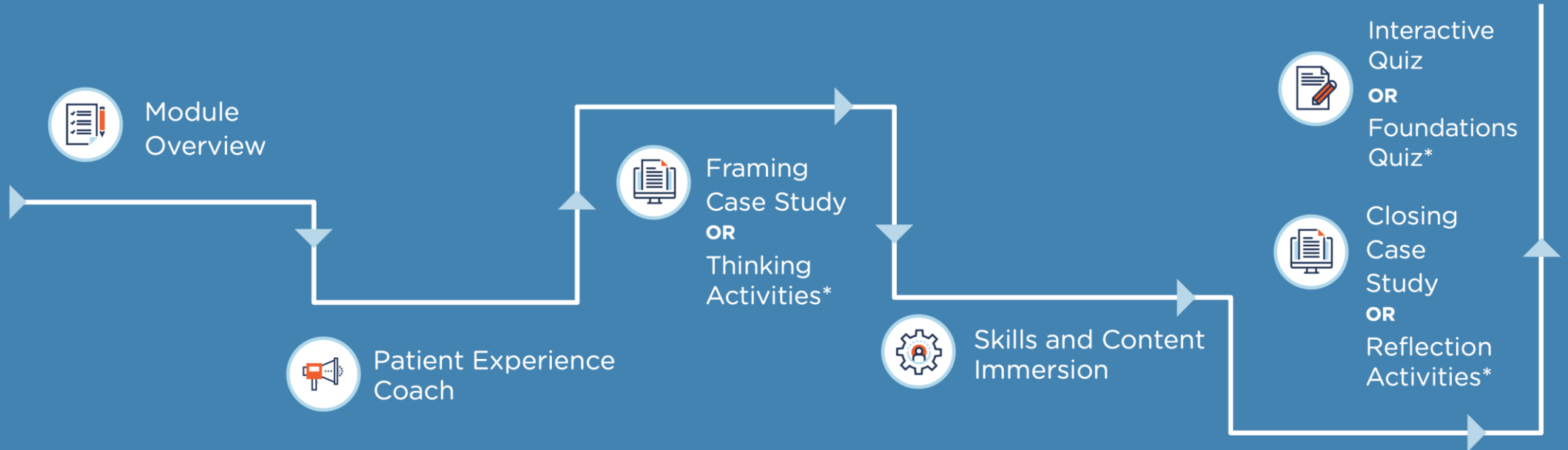You need to code and bill this visit correctly.

Date:

3. What is the appropriate HCPCS code for the prescribed medication?

1. **What is the appropriate CPT code for a routine physical exam?**

2. **What is the appropriate ICD-10 code for high blood pressure?**

4. **What is the difference between a copayment and a coinsurance?**

Learning Development & Design

HOW DO YOU DELIVER?

Case Studies – **Makes Learning Real**

Situating learning in real-world clinical contexts.

Used even at the **Foundations and Developing levels** (Medical Terminology, A&P).

Promotes **critical thinking, engagement**, and **knowledge** attainment.

Case Studies

nha

CLOSE

The Heart And Heart Disease

Search | My Annotations | Settings and Help

Audio Tools

Case Study

Disease in Context: Jim's Coronary Emergency

As you study this module, Case Study activities will provide opportunities to apply learning to this case.

The emergency room's dispatch radio echoed from the triage desk.

"This is Medic 5 en route with Jim, a 58-year-old white male. Suspected acute myocardial infarction with subsequent cardiac arrest while playing basketball. Cardiopulmonary resuscitation was initiated on scene with return of spontaneous circulation. Portable electrocardiography (EKG) indicates ST segment elevation consistent with MI. Patient is receiving high-flow oxygen through a bag valve mask. We have established IV access and administered 10 milligrams' morphine. Before the patient arrested, we were able to administer 325 mg of aspirin and sublingual nitroglycerin therapy. Estimated time of arrival (ETA) ten minutes."

When Jim arrived at the ER, the emergency team rushed to stabilize him. An anesthetist intubated him and inserted a central IV line. A trauma nurse measured his vital signs—he was hypotensive—and attached an oxygen mask to his endotracheal tube. Meanwhile, a phlebotomist drew blood from Jim's other arm for lab tests. The cardiac catheterization team was standing by to rush Jim to the cath lab. A cardiology technician attached EKG leads to his chest and began to record his cardiac muscle's electrical activity. Looking at the cardiac monitor, the doctor confirmed that Jim's heart showed signs of a heart attack. The doctor suspected that one or more of the coronary arteries feeding Jim's heart muscle were blocked with a thrombus (blood clot). He was aware that Jim had already received aspirin, an anticoagulant, to inhibit the formation of any more thrombi and nitroglycerin to reduce strain on the heart. Morphine had been administered to manage Jim's pain and reduce his heart rate.

In the cardiac catheterization lab, a coronary angiography revealed a blockage of Jim's left main coronary artery. A specialized catheter was then inserted through an artery and quickly extended to the left main coronary artery to dilate the blockage with a tiny balloon (balloon angioplasty). A metal stent then was left in place to hold the artery open. Jim was transferred to the cardiac intensive care unit for monitoring and scheduled for an echocardiogram the next day. Jim's nurses knew to check his cardiac enzyme levels every six hours for the next 24 hours to evaluate heart muscle

> **Mustakes** — the mistakes that don't set you back … they move you forward.
>
> ~ Cobb

HOW DO YOU DELIVER?

Simulation – Bridging Hard & Soft Skills

Safe space for **application, decision-making, and communication.**

Prepares learners for clinical environments before real-world patient interactions.

Supports **both technical and interpersonal skills**, improving patient safety and outcomes.

SIMULATION: *PERSONABILITY*

HOW DO YOU DELIVER?

Skills – Competency in Action

Competency-based education **connects learning** to **real-world application** and **growth**.

Skills **demonstrations + checklists** ensures **consistency** and competency **verification**

Step by Step

MEASURE BLOOD PRESSURE

Place diaphragm over brachial artery.

Using your nondominant hand, place the diaphragm of the stethoscope firmly over the brachial artery without depressing the artery.

Tighten valve.

Using your dominant hand, tighten the pressure-release valve on the air pump and rapidly inflate the cuff 30 mm Hg above the patient's previous highest reading.

Release air.

Carefully open the pressure release valve and slowly release air, dropping at a rate of about 2 to 3 mm Hg per second.

Identify first Korotkoff sound.

Identify the number on the gauge when the first tapping or Korotkoff sound appears.

Continue until sound disappears.

Continue to steadily release the air, until the sound completely disappears and at least 10 mm Hg beyond.

Deflate and remove cuff.

Deflate the cuff by opening the pressure release valve completely. Remove the cuff.

Skills Assessment

Step by Step	Attempts			Facilitator's Comments
	1	2	3	
MEASURE BLOOD PRESSURE				
Place diaphragm over brachial artery.				
Using your nondominant hand, place the diaphragm of the stethoscope firmly over the brachial artery without depressing the artery.	☐	☐	☐	What happens if you press too firmly?
Tighten valve.				
Using your dominant hand, tighten the pressure-release valve on the air pump and rapidly inflate the cuff 30 mm Hg above the patient's previous highest reading.	☐	☐	☐	Why is it important to do this?
Release air.				
Carefully open the pressure release valve and slowly release air, dropping at a rate of about 2 to 3 mm Hg per second.	☐	☐	☐	This gives your ears "time" to hear!
Identify first Korotkoff sound.				
Identify the number on the gauge when the first tapping or Korotkoff sound appears.	☐	☐	☐	
Continue until sound disappears.				
Continue to steadily release the air, until the sound completely disappears and at least 10 mm Hg beyond.	☐	☐	☐	
Deflate and remove cuff.				
Deflate the cuff by opening the pressure release valve completely. Remove the cuff.	☐	☐	☐	

FROM TASK-FOCUSED TO *PERSON*-FOCUSED

Living Lecture

01.

Is there a family history of the condition?

02.

What were their earliest symptoms?

03.

Was there a delay in diagnosis or care?

04.

What diagnostics were performed?

05.

What treatments/ procedures or meds were ordered? Still in use?

06.

What lifestyle changes were needed?

THIS or THAT

A — Chocolate Cake

B — Chocolate Cake Ingredients

Which one of these would be more easily consumed, enjoyable to eat and memorable?

MA SKILLSBUILDER– CLINICAL PLUS	MED TERM	NOTES
FOUNDATIONS *Infection Control and Personal Safety*	**Body Systems***: Integumentary*	• **Medical Terminology** and **A&P** subjects have been **paired with clinical topics** to deepen your learners' understanding as these concepts relate to **Real-Life Practice**.
SKILLS LAB *Infection Control* • Aseptic Handwash • Instrument Sanitization • Application and Removal • Instrument Sterilization of PPE		• If also doing clinicals during this time, consider exploring these topics through real-life practice
SKILLS LAB *Clinical Communication* • Patient Interview • Telehealth Appointments	**Body Systems***: Skeletal*	• What are the top 3 Integumentary (Skeletal, Muscular) Disease processes treated at your clinical site? • What are the top 3 risk factors for each?
FOUNDATIONS *Patient Screenings*	**Body Systems***: Muscular*	• What are the most common early symptoms?

Weeks 4 – 5

MA SKILLSBUILDER– CLINICAL PLUS	A&P	NOTES
FOUNDATIONS *Assisting with Minor Procedures*	**Integumentary System**	• What are the most common diagnostics? • What are the top 3 medications?
SKILLS LAB *Minor Surgical Tasks* • Sterile Procedure • Suture and Staple • Sterile Dressing Change Removal	**Skeletal System**	• What are 2 or 3 most common treatments or procedures? • What are the top 3 complications? • What are early signs and symptoms of complications?
FOUNDATIONS *Medical Emergencies in the Office*	**Muscular System**	• How can you prevent complications? • What do you do when complications occur?

Weeks 17 – 18

MA SKILLSBUILDER– CLINICAL PLUS	MED TERM	NOTES

Weeks 6 – 8

SKILLS LAB		

Vital Signs and Body Measurement
 	
• Height and Weight   • Pulse and Respirations   • Blood Pressure
• Temperature   • Pulse Oximetry
	Body Systems: Cardiovascular and Lymphatic	• **Extended Practice**: Offer multi-week skills practice with regular check-ins. *
		
		• **Peer Teaching**: *
		  ▪ **Demonstrations**: Students **showcase skills** to peers.
		  ▪ **Teach-Back**: Students replicate and explain demonstrated skills.

FOUNDATIONS		
General and Specialty Medical Assisting	**Body Systems: Respiratory**	• **Final Check-offs**: Assess skills after extended practice. * • **Skills Stations**: Every 1– 3 weeks, **revisit** all learned skills **for reinforcement**.

MA SKILLSBUILDER– CLINICAL PLUS	A&P	NOTES

Weeks 14 – 16

SKILLS LAB		
Cardiac and Respiratory Procedures • 12-Lead Lead Electrocardiogram • Peak Flow Meter • Baseline Pulmonary Function Test	**The Heart and Heart Disease**	
	Respiratory System	

Beyond the Classroom:
Supporting Lifelong Learning
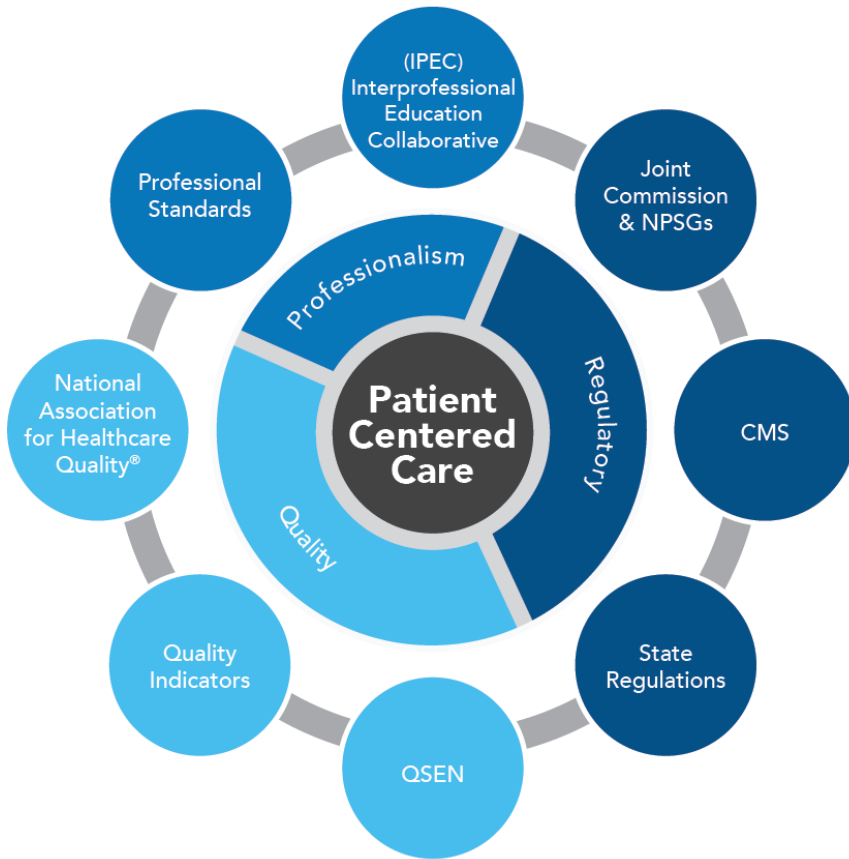
- **Lifelong Learning:** Begins with preparation that's real, relevant, and rooted in practice

- **Work-Based Learning (NCHSE):** Internships and simulations build confidence and competence early

- **NHA:** From learning to certification – tools built to meet real demands of healthcare needs and roles

- **HEALTHCARE WORKFORCE SOLUTIONS (Ascend):** Workforce-integrated learning grounded in patient-centered care and industry standards

- **StaffGarden:** Digital navigation platform for validating competence and advancing careers with confidence

You Are The Bridge

- Recognize when the **classroom-to-practice gap** appears—and why it matters

- Prioritize with purpose using **levels of learning** and **industry-aligned test plans**

- Use **scenario-based learning** to promote relevance and retention

- Connect instruction to real roles through **skills practice** and **clinical context**

- Reinforce growth by delivering the **right content at the right time—over time**

- Support long-term success with **career-connected, lifelong learning**

Reflect & Share

- What's one thing you now see differently?

- And what's one step you'll take to apply this insight into your program?