Introducing *TOCSE*: A tool to bridge didactic learning to clinical application (Part 1)

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TARGET-ORIENTED CLINICAL SKILL ENHANCEMENT (TOCSE)

To connect didactic learning to clinical application is a challenge both for the teachers and students. The dilemma starts from– at what level must clinical learning be introduced to medical students? Should one come after another or be introduced at the same time? Nonetheless, the decision to do is critical.

*T*arget-*O*riented *C*linical *S*kill *E*nhancement (TOCSE) is a teaching and learning tool that brings about the integration of basic medical sciences, such as anatomy, physiology, pathology, microbiology, and pharmacology at the clinical level. The uniqueness of the approach is:

- The primary goal is immediate relief of chief complaint to make the patient comfortable.
- Risk factors for the disease is identified first.
- Pathophysiology of the chief complaint is defined next.
- Primary disease and other diseases, if any, come last.
- Bottomline, all identified abnormalities in the patient will be prioritized and targeted to be resolved.

TOCSE can be introduced with initial application at the second-year level. It is useful in the preparation of 3th year medical students for their 4th year tasks, foremost is writing progress notes. ***TOCSE table*** depicts a clear account of the patient's clinical course which makes writing of discharge summary easy. Overall, TOCSE provides the following advantages and outcomes for an enjoyable teaching and learning experiences:

- Concise diagnosis and management plans is formulated based on specific data in the history and physical examination.
- Unnecessary work-up is avoided.
- Logical daily assessment of patient is achieved.
- Grading of students/trainees at any level is made easy.

HOW TO USE TOCSE

Complete History and Physical Examination: The Backbone

As in any clinical exercise writing complete history and physical examination is basic that leads to plausible diagnosis and differential diagnoses.

IDENTIFYING OF RISK FACTORS

After completion of basic data (history and physical examination), the student will consider a primary

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working diagnosis and differential diagnoses. The identification of risk factors on the patient will narrow-down all possibilities.

Risk factors can be classified into intrinsic or non-modifiable (genetic/familial) and extrinsic or modifiable (environmental/lifestyle). Clinical setting with example of risk factors are, as follows:

- 45 year-old male with pneumonia – socioeconomic status, occupation, uncontrolled diabetes, significant smoking history
- 72 year-old male with stroke – age, gender, with diabetes and hypertension both uncontrolled, obesity, no physical activity
- 53 year-old female with acute cholecystitis – age, gender, obesity, fatty diet

DIAGNOSING THE CHIEF COMPLAINT

To diagnose based on the patient's chief complaint is a clear application of learning from the basic subjects primarily physiology, pathology and anatomy. Again, the diagnosis is anchored on the data obtained from the history and physical examination. Examples of diagnosis of chief complaints are as follows:

- 45-year-old male with pneumonia presenting with ***difficulty of breathing***

The difficulty of breathing is a compensatory increase in respiratory rate due to hypoxia brought about by inflammation in the lung parenchyma leading to inadequate oxygenation.

- 72 year-old male with stroke presenting with ***loss of consciousness***

Loss of consciousness is a cerebral manifestation of either inadequate blood supply to the brain or compression of brain structures by probable h e - matoma formation with increased intracranial pressure.

53-year-old female with acute cholecystitis presenting with ***right upper quadrant pain*** The right upper quadrant pain is a nerve reaction to an inflammatory reaction most likely in the gallbladder.

FORMULATING THE DIAGNOSIS AND THE DIFFERENTIAL DIAGNOSES

Formulating the diagnosis for the primary disease with or without differential diagnosis/es and other co-morbidities follows the usual approach, that is, based on a complete history and physical examination and identifying the salient features of the case, both subjective and objective. Table 1 shows examples of these.

Table 1. TOCSE according to salient features, diagnosis and other diseases

Case	Subjective	Objective	Diagnosis	Other Diseases, if any
45-year old male	Difficulty of breathing Cough and fever Tricycle driver Diagnosed with diabetes but not on medications Smoker	RR: 28 T: 38.5 C Crackles on both lungs	Community acquired pneumonia, to consider pulmonary tuberculosis	Type 2 diabetes mellitus, uncontrolled
68-year old male	Age Loss of consciousness Known diabetic Known hypertensive Noncompliant with anti-diabetes and anti-HPN medications No exercise Eats fatty diet	Awake Wheelchair-borne Not oriented to 3 spheres but follow commands BP: 180/110 PR: 98/min BMI: 30 Funduscopy: (+) hemorrhage Weakness on left upper and lower extremities	Stroke due to intracerebral hemorrhage	Hypertensive emergency Type 2 diabetes mellitus, uncontrolled with probable chronic complications like retinopathy. To consider also nephropathy. Obesity To consider dyslipidemia
53-year old female	Age Gender Right upper quadrant pain No exercise Loves to eat fastfoods	BP: 140/90 BMI: 32 No jaundice Tenderness at the right upper quadrant	Acute cholecystitis	Hypertension Obesity

Part 2 of this article will discuss and demonstrate the easy way to make daily progress notes (S-OA-P), how to write the assessment, how to formulate plans according to the assessment, how to construct the TOCSE table, and how to write the discharge summary.