

TAKE 2 – THINK, DO

INFORMATION FOR CLINICIANS

Diagnosis is the process of integrating a patient's symptoms to categorise the underlying illness and guide treatment. It has been described as potentially the most difficult cognitive challenge that exists in medicine due to the complexity, variability, and uncertainty that exists at every step of the diagnostic process^(1, 2).

International literature reports diagnostic error to occur in approximately 10-15 percent of all diagnostic encounters⁽²⁾. While the majority of these are innocuous and have little impact on overall patient outcomes, an error in diagnosis has the potential to cause serious harm⁽³⁾.

What is the problem?

Cognitive and system related factors are the most cited contributing causes to diagnostic error⁽⁴⁾.

There are a multitude of system and cognitive factors described, often co-existing, that increase the potential for error to occur.

Most commonly, errors occur in the data synthesis and decision making steps of the diagnostic process as a result of two different systems of thinking, based on experience and knowledge. This is a subconscious thought process in which an expert clinician will quickly recognise a problem and reach a conclusion while the novice will spend more time investigating and weighing up all the possibilities before reaching a conclusion^(1, 5).

Challenges associated with both these types of thinking means that strategies to reduce diagnostic error need to create an environment where clinicians will switch backwards and forwards between the two as a means of crosschecking their decision making process⁽⁶⁾.

Diagnostic Error in NSW

In NSW there are approximately 500 incidents per year directly attributable to diagnostic error reported through IIMS#. Many of these result in minor impact to patients however, a significant number contribute to adverse patient outcomes.

	2012 (n=534)				2013 (n=500)			
SAC	1	2	3	4	1	2	3	4
Delayed	27	48	156	69	22	51	137	54
Missed	29	52	109	43	24	49	114	41
Total	56	100	265	112	46	100	251	95

Overview

The *Take 2 – Think, Do* framework supports accurate diagnostic decision-making in complex clinical environments. It is designed to improve awareness and recognition of the potential for errors across a broad clinical arena, and reduce the morbidity and mortality associated with wrong, missed, or delayed diagnosis, across the NSW health care system.

The framework consists of three components:

Take 2

2 minutes to deliberate the diagnosis promotes a quick reflection for each clinical presentation

Think

- Provides clinicians with insight into clinical situations in which it may be appropriate to think twice and take a closer look
- Identifies specific patient journey checkpoints that are ideal opportunities to review the working diagnosis

Do

Provides the strategies that enable clinicians to take action and work through the presenting problem in a different way to identify alternative possibilities

The Take 2 – Think, Do Framework

The Take 2 – Think, Do framework outlines the key components for enhancing diagnostic decision making, ensuring the best possible outcomes for patients.

Take 2 minutes to deliberate the diagnosis

While deliberating the diagnosis:

- Document the differential diagnoses
- Detect any 'red flag' symptoms
- Acknowledge uncertainty in diagnostic dilemmas
- Rule out the worst case scenario
- Identify when something isn't quite right

Think about situations when it may be necessary to take a closer look or re-evaluate the diagnosis

Take a closer look when:

There are risk factors impacting diagnostic decision making:

- HALT (Hungry, Angry, Late, Tired)
- Cognitive biases (e.g. context, framing bias)
- Patient engagement difficulties
- Knowledge deficit or workload pressures

Facility or specialty specific high risk presentations - *Take 2 for you*

Take time to review at specific patient journey checkpoints:

- Things aren't going as planned
- The patient is deteriorating
- The expected response to treatment is not achieved
- At handover between teams and discharge from care
- The patient or carer is expressing concern over the diagnosis

Do something to take a closer look and review the diagnosis

Strategies to review and challenge the diagnosis:

- Individual strategies eg. Diagnostic Time-out
- Team based strategies eg. Red Team Blue Team Challenge
- Seek a second opinion
- Refer to specialist services
- Escalate care for senior medical officer evaluation and input

Outcomes

- The worst case scenario is ruled out
- Atypical or rare presentations are identified
- There is a high suspicion for repeat presentations
- Diagnosis is re-evaluated when things aren't quite right
- The patient and carers' concerns are heard and acknowledged
- Locally identified high-risk patient groups are recognised
- There is an environment that enables discussion around diagnosis
- There is appropriate referral and escalation for diagnostic dilemmas
- There is effective communication when transferring care

The framework explained

Take 2 minutes to deliberate the diagnosis

While deliberating the diagnosis...

This initial step encourages clinicians to take a quick reflection on the diagnostic decision making that has taken place and allows processes to quickly move on for straight forward cases while ensuring that the critical aspects have been considered.

It entails considering and documenting a differential diagnosis, identifies potential atypical presentations and elements of the presentations that are not quite right and helps to rule out the worst case scenario.

Diagnostic dilemmas appear frequently in clinical practice. These are those difficult cases where a combination of symptoms could represent different diagnoses with potentially diverse patient outcomes. Acknowledging uncertainty in the diagnostic decision making, particularly at handover, provides a prompt for clinicians to come back and revisit the diagnosis.

Think about situations when it may be necessary to take a closer look or re-evaluate the diagnosis

Take a closer look when ...

This process provides clinicians with insight into clinical situations in which it may be appropriate to think twice and take a closer look. This:

- Creates a heightened awareness promoting greater identification of risk
- Enables identification of cognitive, system and patient factors that have the potential to impact the decision making process (Summarised in the table below)

It incorporates 'Take 2 for you' allowing the identification of high risk scenarios or presentations at a unit or facility level. This promotes the development of customisable strategies specific to local unit needs. This may be two or three frequently missed diagnoses; or a common presentation that is usually indicative of a minor ailment however, on rare occasions, could indicate a significant clinical concern.

Take time to review ...

This step encourages reflection on the diagnosis at important steps in the patient's journey by going back and re-doing the first step - Take 2 minutes. Taking time to review encourages:

- A high suspicion for repeated presentations
- Re-checking response to treatment
- Re-evaluation of diagnosis in the deteriorating patient
- A quick check that nothing is missed prior to discharge

Factors Impacting Diagnostic Decision Making ^(7, 8)

Human Factors	System Factors	Patient Factors	No Fault Factors
<ul style="list-style-type: none"> • Cognitive processing factors (e.g. hungry, tired, ill, distracted) • Bias in synthesis (e.g. context, framing or confirmation bias) • Knowledge deficit 	<ul style="list-style-type: none"> • Work load / time pressures • Environment • Appropriate supervision • Adequate training • Communication • Resource availability • Care coordination 	<ul style="list-style-type: none"> • Unable to communicate • Limited consumer engagement • Poor historian • Lacking an advocate / carer 	<ul style="list-style-type: none"> • Atypical presentation • Rare or undiagnosable condition

Do something to take a closer look in these high risk situations

Take a closer look using ...

This step outlines the strategies that enable clinicians to take action when something is not quite right, things aren't going to plan, or there is a difficult or ambiguous presentation that is not easily deciphered. Each strategy provides a different approach that promotes:

- Improved dialogue regarding diagnosis between team members, and during the transfer of care
- Opportunities to reflect on the diagnosis individually and as a team
- Identification of escalation triggers

Strategies to facilitate decision making

Red Team / Blue Team Challenge

Red Team / Blue Team strategy was developed by the military as a method of testing force readiness. In the clinical environment, there are significant benefits to questioning the decision making process in this manner. The Blue Team role is to undertake history taking, clinical assessment and synthesis in the traditional manner. The Red Team role is to listen and critically challenge the decision making process.

A member of the patient care team is allocated to the Red Team role at a set point - possibly during rounds, handover or whiteboard meetings.

Consider asking:

- What else could this be?
- What is the worst case scenario?
- Which symptoms don't fit?
- Will the proposed investigations rule out the differential diagnoses?

Ask the patient:

- What they think it could be?

References

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Incident Information Management System

Diagnostic Time Out

The diagnostic checklist is a cognitive checklist to ensure that steps in the diagnostic process are not missed and that high risk patients, situations or symptoms are identified. This is a useful strategy to review the decision making processes as a self-reflection when a team approach or second opinion is not readily available.

The temptation is to only use a checklist when you think it might be required, or when the situation is complex or unclear, however this would fail to identify the 'red flags' for times when further scrutiny is required.

Consider the following⁽⁹⁾:

- a. Was I comprehensive?
- b. Did I consider all the facts?
- c. Was my judgement effected by any other factors?
- d. Do I need to make the diagnosis now, or can it wait until further information is available?
- e. Are there any red flag symptoms I need to consider?

About the Take 2 – Think, Do project

The CEC's *Take 2 – Think, Do* project aims to reduce the morbidity and mortality associated with wrong, missed or delayed diagnosis through enhancing the clinicians' critical thinking and recognition of the potential for diagnostic error across a broad clinical arena.

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