

The 5 Whats: The Essence of Reflective and Critical Practice

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“ Doctors’ day-to-day clinical practice and decision-making are informed and guided by a number of factors and influences. Notable amongst these is the research undertaken by others and published in medical journals. This information is integrated by doctors, along with their clinical experience and that of their peers, and translated into clinical practice. We, as doctors, often rely on the guidance of those who have larger experience in given fields, their shared experience, knowledge and opinions to inform our own decisions. Therefore, the integration of all these sources of information provides us with the basis of our medical practice. Consequently, our own medical practice and the care we impart to our patients is influenced largely by the work, experience, thoughts and opinions of others. It is therefore our duty as doctors to filter and critically appraise this information before we accept it and translate it into our own healthcare delivery. We must reassure ourselves, and the patient, that our recommended intervention (diagnostic or therapeutic) is justifiable, sound, safe and affordable. For that, we are obliged to undertake a reflective, and critical, thinking process to fulfil these criteria and safeguard our patients’ well being. ”

Key Words: Reflective Medical Practice, Critical Thinking, 5 Whats

Reflective Medical Practice

This is an essential part of the reflective process. It is a way to learn from our own clinical experience and encounters to deliver the best possible medical practice. Reflective medical practice is a way of integrating daily clinical practice and experiences, including our errors and mistakes, into our knowledge, experience and subsequent practices. It consists of integrating “Thinking” into “Practice” by an acute awareness of what we do, how we do it, what we learn from it, and how it leads to better practices (see figure 1). Reflective medical practice involves the integration of a constant reflective process on what and how we practice into the delivery of our own healthcare. Such reflective thinking always assumes a re-thinking of what we do and how we do it in order to improve it and to deliver better, if not best, medical healthcare to our patients.¹

Evidence Based Medicine and Critical Appraisal

Medical practice should aspire, to a large extent, to be based on sound evidence. Evidence based medicine (EBM) encourages

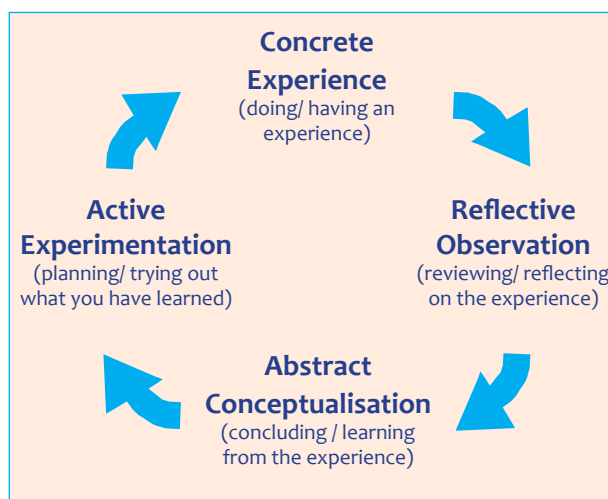


Figure 1: Kolb's Model of learning

the practitioner to base his clinical practice on the best available clinical evidence. Clinical evidence may vary in quantity but also in quality. A hierarchy of clinical evidence often puts opinions and anecdotal case reports at the bottom and meta-analyses as well as systematic reviews of a large number of randomized clinical trials at the top²⁻⁴ (see figure 2). However, to be able to make the most of EBM, the doctor has to be able to evaluate the quality of single reports, randomised clin-

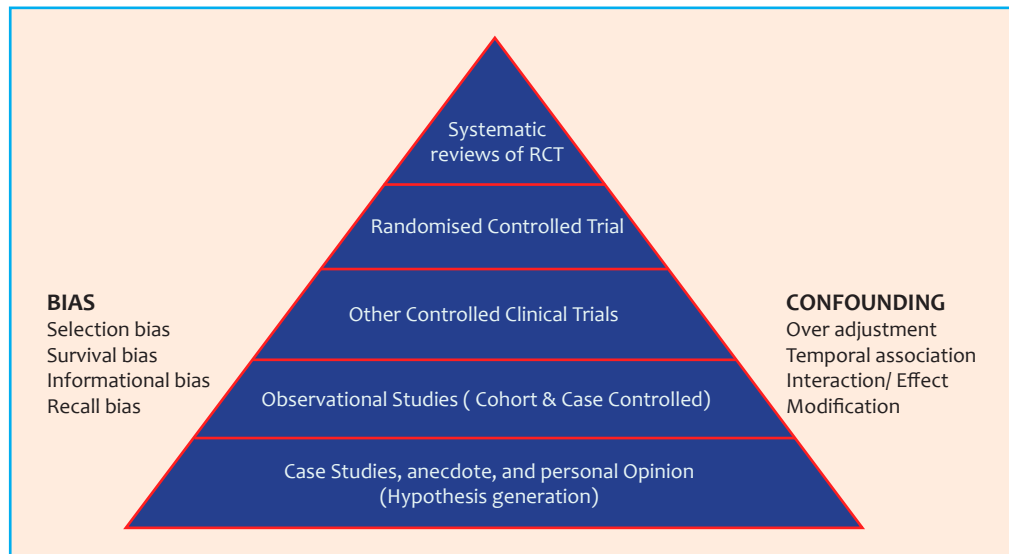


Figure 2: Critical Appraisal of Literature: Hierarchy of Studies

ical trials (RCT) but also meta-analyses and systematic reviews. Those are not without their problems and pitfalls.^{4,5}

To keep an open and critical mind is a prerequisite for EBM. The latter cannot be safely implemented if doctors take on board, without due reflection, all that they are told, read or heard. Also, assuming that “All Evidence is Good Evidence” is unjustified and potentially unsafe. It is therefore imperative that doctors have some basic tools that allow them to filter the good from the bad, and not so good. This starts with having an inquisitive and critical mind; the deferential mind that accepts without questioning all that is imparted to it by seniors, the literature, the so-called experts and peers, is not a mind respectful of knowledge but instead it is a mind that is unable to think for itself with potential harmful consequences. The deferential doctor puts patients at risk by an uncritical acceptance of acquired, and possible misleading, information. An unquestioning attitude can lead to malpractice based on erroneous information and poor evidence.

I therefore urge doctors to always question:

- What you are taught,
- What you are told,
- What you hear,
- What you read,
- What you receive as advice and,

- What you do as a practitioner.

This is the essence of a cycle of reflective medical practice with continuing improvement and good clinical governance.

Critical thinking is the duty of medical practitioners to question what they are taught and not to accept it without a critical analysis. It therefore implies, not accepting passed on knowledge and publications without filtering it through our own mind and asking a number of simple questions, such as:

- Is the information passed on to me of good quality?
- Is it of relevance to my patient?
- Is it associated with minimum risk to my patient?
- Is it affordable?”

By asking these questions you become more than a doctor; you become the patient’s advocate and the patient’s protector; you become a partner in his care and a true caregiver. Care is not just about treating patients, it is about caring to treat them the best way one can, with the best knowledge one can accrue.

The 5 WHATs are a simple tool to start this questioning process. It is based on the tenants of critical thinking.⁶ The 5 WHATs are questions we need to ask ourselves and ask those who provide us with information and medical knowledge, in order to reas-

sure ourselves and the patients that due diligence has been applied in caring for their management. The 5 WHATs are:

1. What is the justification of this investigation or treatment; Intervention?
2. What is the quality and validity of the evidence supporting this intervention?
3. What is the usefulness of this intervention to my patient(s) and how will it benefit my patient(s)?
4. What is the risk of this intervention compared to its benefit?
5. What is the cost of this intervention compared to its benefit?

The First WHAT: What is the justification of this investigation or treatment; Intervention?

It is imperative to know whether a given investigation or treatment we intend to impart on a given patient is justified. Here are some examples.

Undertaking a kidney biopsy, as an investigation, we should ask ourselves:

- Is it justified and what is the justification?
- Is it necessary and essential to the health-care and wellbeing of this patient? Would I be able to manage the patient without this biopsy?
- How would this biopsy change or affect my management and improve it?

These questions need to be asked and more importantly, need to be answered before a patient is put through a kidney biopsy; a procedure that isn't without risks of morbidity and even mortality.

Lets take the example of an adult patient with isolated haematuria.

- Is it justified to perform a biopsy?
- Is it necessary to the subsequent manage-

ment?

- How would it change my management?

Depending on the context, the clinical situation as well as our reflective practice, we can decide whether to biopsy or not to biopsy!

But this reflection needs to be undertaken and documented to justify this investigation. It is in the best interest of the patient and that of the doctor.

Another example would be to deciding to treat a patient with a given drug, lets say an ACE inhibitor for hypertension;

- Is it justified and what is the justification?
- Is it justified in preference to another anti-hypertensive agent?
- Is it justified as an anti-proteinuric agent?
- Is it justified on the basis of its nephron-protective properties?
- Is it justified on the basis of its cardio-protective properties?
- Is it justified in terms of its risk and potential side effects?
- Is it justified in terms of its cost?

All these are questions we need to ask ourselves, as doctors, before prescribing such treatment to a given patient.

And then...

The Second WHAT: What is the quality and validity of the evidence supporting this intervention?

Is there sufficient evidence to support the choices I am making in terms of diagnostic or therapeutic interventions?

And more importantly, is the evidence I base my decision making upon good and strong?

And here we need to fully appreciate the hierarchy of evidence as outlined in [figure 2](#).

Table 1: Quality of evidence

Grade	Quality of Evidence	Meaning
A	High	We are confident that the true effect lies close to that of the estimate of the effect
B	Moderate	The true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different.
C	Low	The true effect may be substantially different from the estimate of the effect.
D	Very low	The estimate of effect is very uncertain, and often will be far from the truth.

Is the evidence strong enough to justify a Recommendation or weak so as to justify a Suggestion? A Recommendation for instance, in guidelines, is based on strong, level 1, evidence whilst a Suggestion is based on level 2 weaker evidence. In fact, some guidance is not graded at all in view of the very weak nature of the supporting data. In addition, Recommendations and Suggestions can be further graded in to A to D as show in [table 1](#).

It is important to appraise the evidence upon which we base our clinical practice in such a way to be confident of its validity and in order to be able to justify its application to the patient.^{7,8} Furthermore, it is our duty as doctors to familiarize ourselves with the strength and weakness of what we base our practice upon to be intellectually honest with the patient in terms of explaining and justifying why we have chosen this medical approach. This is essential to meet patient's expectations but also to involve them in our decision-making. The patient needs to know the strength of the evidence and background to the proposed investigation or treatment in order to accept or reject such approach. Patients' involvement in decision-making will benefit them but also the doctor who, in doing so, shares the burden of the healthcare with the patient. After all, it is the patient who will benefit or be harmed by the doctor's decision. Ultimately, it is his right to choose, based on sound, informed and truthful information that we provide him. In order to appreciate the validity of

a given intervention a critical appraisal test or evaluation can be applied. This will consist of, for instance, evaluating a clinical treatment to know whether the evidence supporting its use is based on hearsay, opinions, anecdotes, case reports, clinical trials or better still meta-analysis or systematic reviews of a number of clinical trials.^{7,8}

For instance, for a given clinical trial, we need to be aware of whether this trial is:

1. A randomised Clinical Trial
2. A Blinded (preferably double-blinded) clinical trial
3. An adequately controlled clinical trial
4. An adequately powered, with sufficient number of patients, to justify its findings and support its statistical analysis
5. A clinical trial with hard endpoint and not just soft surrogate endpoints that can be misleading
6. A Clinical trial with sound methodologies and data analysis
7. A clinical trial with all those involved analysed; intention to treat analysis (ITT), and not just the few who completed the trial (per protocol analysis).
8. A clinical trial with sound interpretation of the data.
9. A clinical trial with recommendations based on facts
10. A clinical trial and publication with realistic and factual conclusions.

Such an approach is recommended for

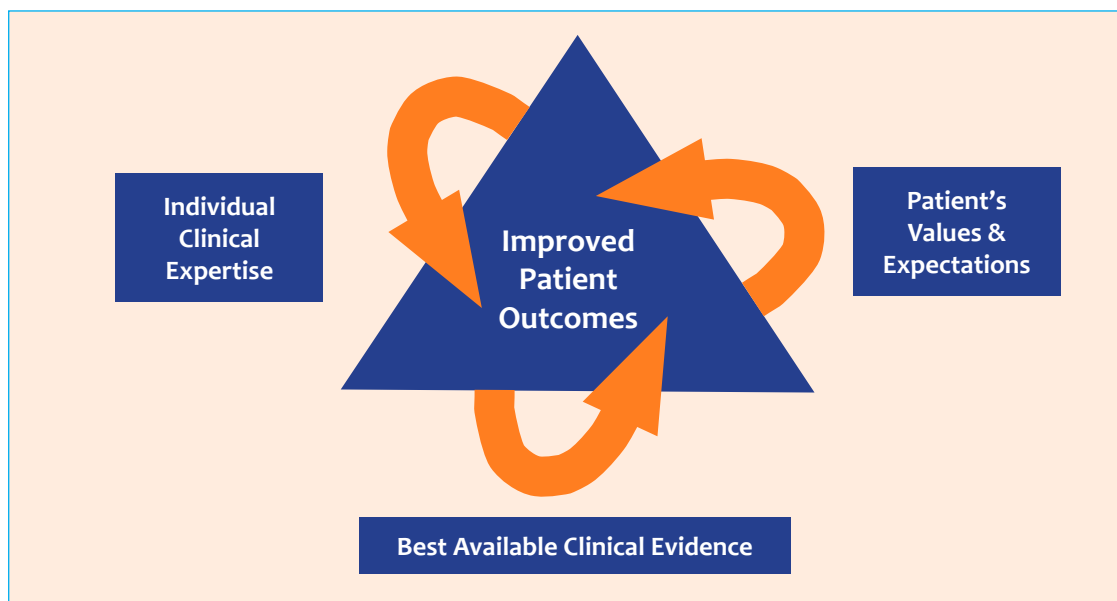


Figure 3: Integration of Evidence based medicine on improving patient outcome.

sound and safe clinical practice.

And then...

The Third WHAT: What is the usefulness of this intervention to my patient(s) and how will it benefit my patient(s)?

This is an important question because a clinical trial with strong and valid evidence, based on our critical appraisal under the second What, may be relevant or irrelevant to my patient.

For instance, it may be applicable and supportive of an intervention in children with a given disease that may not be appropriate or relevant to older patients with the same condition. An intervention that may be relevant to patients with type 1 DM may not be to those, much older patients, with type 2 DM and a different underlying co-morbidity. A given treatment may be relevant to those with hypertension and black race that may not be applicable to those with the same severity of hypertension of white ethnicity. A form of immunosuppression may be applicable to patients with a certain class of lupus nephritis and not others with a milder form of the disease. A management approach may be applicable to a given grade of chronic kidney disease and not another, and so on.

This is the essence of the third What, the relevance and usefulness of the intervention to the patient I am treating, not to those treated and reported in the clinical trial under consideration. Very often clinical trials exclude older patients, those with the most severe forms of a given disease and/or those with significant co-morbidities.

So the question I must ask myself at this stage of my reflective medical practice and critical appraisal is: Is this intervention useful for my patient and how will it benefit them.

And then...

The Fourth WHAT: What is the risk of this intervention compared to its benefit?

An intervention that may have passed with flying colours the first three What questions, may struggle with the fourth, as it may be associated with a high risk of side effects and complications that makes any benefit the patient may accrue debatable. In other words, the side effects, morbidity and even mortality, linked to a given intervention (diagnostic or therapeutic) may be too high to justify its potential benefits.

Such an analysis of Risks versus Benefits is crucial to recommend a treatment to a patient and for us as doctors to implement it. To impose a treatment that we deem justifiable, applicable and valid that could harm or even kill a patient is not an option.

So the question of risks and benefits need to be carefully weighed. The doctor also needs to familiarize himself with what he prescribes in terms of test or treatment as far as how it works, its physiology, its pathology and mostly its risks. They will then have to list them and explain to their patients, in terms easily understandable by the patient, for the latter to accept or reject that intervention.

And then ...

The Fifth WHAT: What is the cost of this intervention compared to its benefit?

An intervention that may have passed the first 4 Whats may stumble on the fifth.

The matter of cost; an intervention can be suitable for a given patient but too costly to afford. It may also be too costly for the healthcare provider to pay for it. In such cases this intervention is no longer suitable for this patient. Also, an intervention that is suitable and effective but too expensive may not be superior to an equally suitable and effective therapy that is cheaper; in that case it is our duty to the patient or the healthcare provider to use the cheaper of the two, knowing that they are equal in all the other 4 considered points: Justification, Validity, Utility, and Risk v Benefit profile.

A treatment that is unaffordable is not a good treatment as it may not be complied to and may be misused by the patient. So cost efficiency is a key element of a good treatment.

A doctor should therefore be fully aware of the cost of the intervention recommended to a patient.

The 5 Whats should lead to an informed decision making for both the doctor and the patient. Faced with a patient the doctor should be able to take the time to explain the intervention in the 5 Whats terms and consequently answer the patients' queries such as:

Please tell me doctor:

1. What made you choose that treatment for me?
2. What is the evidence that it works?
3. What is the likelihood that it is the right

treatment for me?

4. What are the risks associated with this treatment?
5. What is the cost of this treatment?

Ultimately, such a reflective and critical approach to patient's management is also a respectful and caring approach to the patient. It does not make false assumptions. It does not take a patronising approach to the patient. Respecting the patient through shared discussions, explanations and decisions makes for better healthcare and overall better management.

It is high time doctors cease to think that they are higher beings with higher knowledge that justify their imposition on patients of poorly justified, badly validated and irrelevant or even harmful treatments. That is not what the practice of medicine is all about. Medicine is about care and respect for the patient. It is about making the effort through reading, enquiring and searching for what is best for the patient one is dealing with.

Good medicine is all about personalised medicine tailored to best fit the patient we are dealing with. In order to achieve these aims, we need to be better and more critically informed. We, as medical practitioners, need to keep ourselves updated but also we need to be critical of the knowledge and publications we come across in order to protect our patients against malpractice. Ultimately, this will protect us too.

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Abbreviation list: Evidence Based Medicine (EBM), Randomised Controlled Trials (RCT), Angiotensin Converting Enzyme Inhibitor (ACE Inhibitor), Diabetes Mellitus (DM), Chronic Kidney Disease (CKD).

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