

Hi,

It is another month and it is time to take a look at some new articles. This time I would like to **draw your attention towards** these articles, which are discussing



A) attributes of small medical practices leading to superior quality care. B) testing for latent tuberculosis. C) websites explaining the scientific methods. D) Tests of liver injury

What are the attributes of small medical groups, associated with superior quality care?

This article from **Clinical Medicine & Research** studied one medical group, to **determine organizational and cultural attributes**, which seem related to its achievement in **care quality**. This



study identified 12 attributes or qualities that seemed to be associated with its good care quality, and **patient centeredness being the foundation for most of the other attributes**.
(page 2)

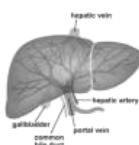
We have applied scientific method to understand various biological phenomena; have we ever wondered what the history of scientific method is and how it is defined? And how it is used?

This article from **CBE Life Sciences Education** explores the **web resources dealing** with these questions only. The scientific method is a convenient way to introduce students to the process of science. It is an approximation. As the student matures, how we teach what constitutes the



scientific method should mature as well to include **less black-and-white and more gray**. Authors think this brief review of Web resources on the topic of the scientific method will help **students/budding scientists/even our kids** gain a **better understanding of the process of science** and its relationship to its **philosophy**. (page 3)

We have learning about LFTs since our first year in MBBS, now that **screening** ambulatory people by chemistry panel has become very **common**, the incidence of **asymptomatic patients with abnormal**



LFTs seems to have gone up. **Recognizing the different patterns of liver injury can be used as a guide to direct further evaluation** of diseases that affect the liver. Check out the details.
(page 4)

Tuberculosis is very common; this article from Clinical Medicine & Research takes a look at **testing for latent tuberculosis**. The goal of testing for LTBI is to **identify persons who are at increased risk for developing TB** and



who would **benefit from treatment** of the infection. There are two tests available to confirm a diagnosis of LTBI: **the tuberculin skin test, and the measurement of interferon-gamma in whole blood**.
(Page 5.)

So this is it for this month. Hope you are **having great summer!** If you are going away on a holiday, **bon voyage!** If you are like me and are taking swimming lessons check out



www.totalimmersion.net. I guess this site would help experienced swimmers also. Thanks and Regards,

~Sachin

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Back issues of this newsletter available online – <http://sachinkale1.tripod.com>

(1, Cont.)

Closer look at health – through the Internet



Transforming Medical Care: Case Study of an Exemplary, Small Medical Group

Table 1. The Recommendations for New Care From the Institute of Medicine and the Future of Family Medicine

1. Redesign of care processes based on best practices
2. Use of information technologies to improve access to clinical information and support clinical decision making
3. Knowledge and skills management
4. Development of effective teams
5. Coordination of care across patient conditions, services, and settings over time
6. Incorporation of performance and outcome measurements for improvement and accountability

Future of Family Medicine

1. Personal medical home
2. Patient-centered care
3. Team approach
4. Elimination of barriers to access
5. Advanced information systems
6. Redesigned offices
7. Whole-person orientation
8. Care provided within a community context
9. Emphasis on quality and safety
10. Enhanced practice finance
11. Commitment to provide family medicine’s basket of services

Table 2. Principal Attributes of Patients’ First Medical Group

1. Strong visionary leadership
2. Patient centered
3. Strong support for physician-patient relationship
4. Strong group, team, and standardization orientation
5. Extensive involvement and engagement of all physicians and staff
6. Highly organized change management
7. Focused
8. Strong change and improvement orientation
9. Broad physician sense of ownership and responsibility
10. Market driven
11. Data-based, transparent, and accountable
12. Pride and joy



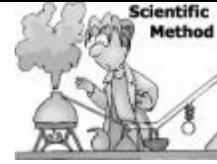
Discussion:

- A) Authors think that there are **two root causes** why this practice is different from others, and those are **a) leadership and b) patient-centeredness**.
- B) In this group the patient-centeredness goes beyond that of individual doctors and has become a **system-level attribute for entire patient population**.
- C) This unusually **strong focus on patients** resulted in the **willingness** of this group **to standardize care, implement common guidelines, and acquire** many of the other attributes that authors identified.
- D) Those attributes would have been only good intentions had this group not had **unusually capable leaders** who were able to **successfully involve and engage the entire staff** in implementing them, even though the leaders might not have seen the path clearly from the start.
- E) They certainly do now, as reflected in the current medical director’s insightful comment: **“The secret to meeting [quality] goals is to systematize things so they become automatic, and less thought is needed to make sure each item is completed.”**

(2, Cont.)

WWW: The Scientific Method

Robert V. Blystone and Kevin Blodgett

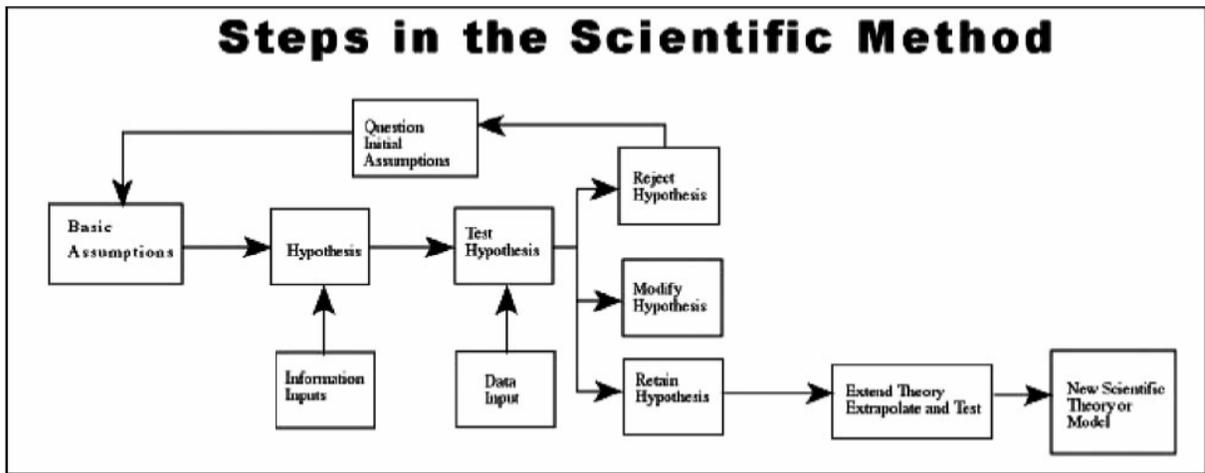


The scientific method is the **principal methodology by which biological knowledge is gained** and disseminated. As fundamental as the scientific method may be, its historical development is poorly understood, its definition is variable, and its deployment is uneven. Scientific progress may occur without the strictures imposed by the formal application of the scientific method. **This report explores Web resources that get at the definition, history, and use of the scientific method.**

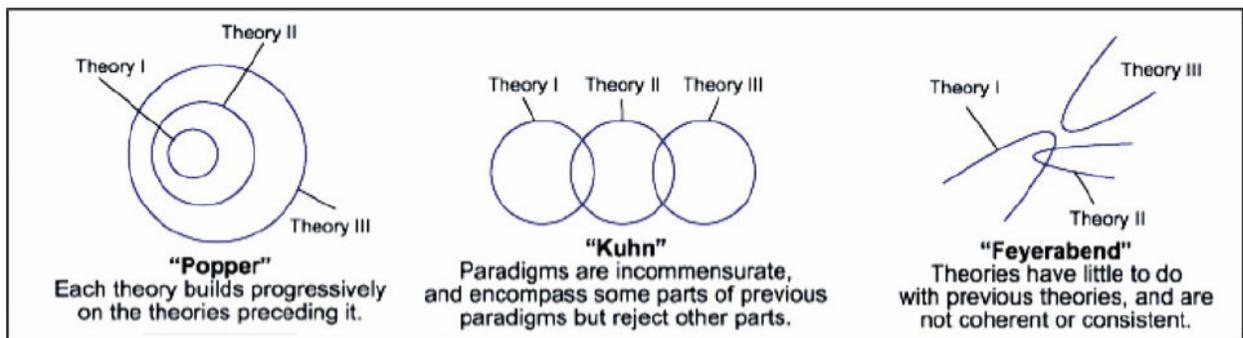
Following is a list of URLs explaining scientific methods, its history and everything else that we may want to know. I have checked all these URLs, if there is any difficulty, web version of this newsletter may be checked. So here we go..

- http://www.sciserv.org/isef/primer/scientific_method.asp
- <http://www.emints.org/about/index.shtml#educators>
- <http://school.discovery.com/sciencefaircentral/scifairstudio/>
- <http://teacher.nsr1.rochester.edu/index.html>
- <http://www.ldolphin.org/SciMeth2.html>
- <http://www.scientificmethod.com/index.html>
- <http://www.mala.bc.ca/~7Ejohnstoi/darwin/sect3.htm>
- <http://www.scientificmethod.co.uk/>
- http://en.wikipedia.org/wiki/Scientific_method

- http://en.wikipedia.org/wiki/Baconian_method
- http://en.wikipedia.org/wiki/Hypothetico-deductive_method
- http://en.wikipedia.org/wiki/Portal:Scientific_method
- <http://www.scientificmethod.co.uk/>
- <http://www.amasci.com/miscon/myths10.html>
- <http://www.dharma-haven.org/science/>
- <http://hps.arts.unsw.edu.au/>



Lambert Dolphin's steps in the scientific method.



A comparison of Popper's, Kuhn's, and Feyerabend's ideas about scientific theories.

Each of above URL has unique explanation about scientific method. At sciserv.org, one may find a carefully worded description of the scientific method consisting of the following steps: problem/purpose, hypothesis, procedure, materials, observation/data/results, analysis, and conclusion. Most would agree that this recounting of the scientific method would be appropriate for a budding young scientist, especially one who is preparing a science fair project.

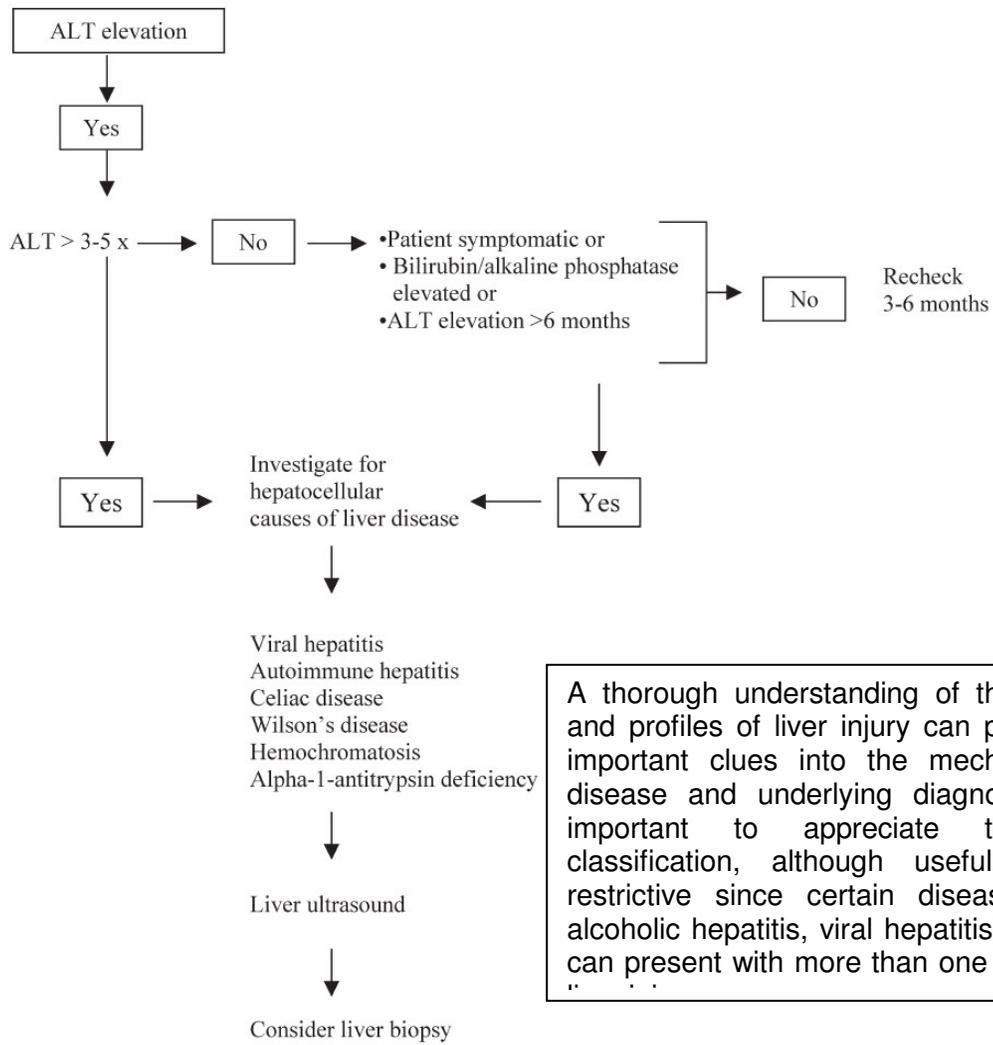
(3, Cont)

Outpatient Practice Management Tips: Tests of Liver Injury

Common patterns of liver injury.

	Autoimmune		
	Hepatocellular	Cholestatic	Infiltrative
Transaminases	++/+++	0/+	0/+
Alkaline phosphatase	0/+	++/+++	++/+++
Bilirubin	0/+++	0/+++	0/+

Normal = 0; degrees of abnormality = + to +++.
Adapted from Moseley.¹



A thorough understanding of the pattern and profiles of liver injury can provide us important clues into the mechanism of disease and underlying diagnosis. It is important to appreciate that this classification, although useful, is not restrictive since certain diseases (e.g., alcoholic hepatitis, viral hepatitis) or drugs can present with more than one pattern of ..

Table 2. Laboratory evaluation of hepatitis C.

Test	Sensitivity	Disadvantage	Clinical utility
HCV-ELISA	95%	Window period of 8 to 14 weeks Does not distinguish between past and current infection	Screening test Easy to do Low variability Ease of automation
HCV-RIBA	95%	Technically demanding Does not distinguish between past and current infection	Use to confirm positive ELISA
HCV-PCR qualitative	96% to 100% Can detect as few as 135 viral copies/mL	Technically demanding	Confirmatory test Positive as early as several days after inoculation



Treatment of persons with active TB is the number one priority targeted to **prevent the spread** of infection. A secondary priority, particularly in developed countries here there is a lower incidence of the disease, is the **identification and treatment of persons with latent TB infection (LTBI)**. The majority of new cases of TB are derived from a pool of patients with LTBI. Thus, **identifying and treating persons with latent infections is an important public health measure**, since it not only **prevents active TB from occurring in individuals with latent infection**, but **also prevents the interpersonal spread** of the disease. **Understanding the available tests and how to correctly interpret and apply the results is the first step** in recognizing patients at risk and in providing appropriate treatment.

Risk	Persons at risk
Increased risk due to exposure of infectious cases	Persons with recent close contact with person known to have active TB Children <4 years of age Tuberculin converters* Health care workers employed at facilities where persons receive treatment for TB
Increased risk due to individual characteristics	Foreign-born persons from countries with high prevalence of TB (Asia, Africa and Latin America) Homeless persons Persons living or working in a long-term care facility (e.g., nursing home, prison, health care facility, etc.)
Increased risk of active TB once infection has occurred	Persons infected with HIV Intravenous drug abusers Persons with the following medical risk factors End stage renal disease Silicosis Diabetes mellitus Immunosuppressive therapy Hematological malignancy Malnourished or who lost more than 10% of their ideal body weight Gastrectomy or jejunioileal bypass

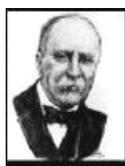
* The whole blood interferon- γ test is a quantitative *in vitro* assay that evaluates the cell mediated immune response to *M. tuberculosis*. The test is based upon the principle that previously sensitized T lymphocytes release interferon- γ in response to stimulation by PPD. This assay has been shown to have excellent agreement with tuberculin skin testing.

Table 1. Increased risk and who should be tested for latent tuberculosis infection.

Diameter of induration	Characteristics or clinical features
5 mm	HIV infection Recent close contact with a person with active TB* Fibrotic changes on chest radiograph consistent with prior TB Organ transplant recipients and other immunocompromising conditions requiring the equivalent of 15 mg/day of prednisone for 1 month
10 mm	Foreign-born from high prevalence regions such as Asia, Africa and Latin America and immigrating to this country within the last 5 years Intravenous drug and alcohol abuse Residing or working in a high risk congregate setting (e.g., correctional facility, nursing home, homeless shelter, hospital, etc.) Employed in a mycobacteriology lab Medical conditions that places persons at high risk Less than 4 years of age or <18 years of age and exposed to adults in high risk categories
15 mm	No known risk factors for TB

Table 2. Characteristics or clinical features of persons who should receive treatment for LTBI corresponding to degree of induration on skin testing.

Parting Thought...



"Student, if you want a profession in which everything is certain you had better give up medicine."

- Sir William Osler
 End)

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