

BMJ Group

Health Content 07: Evidence based medicine

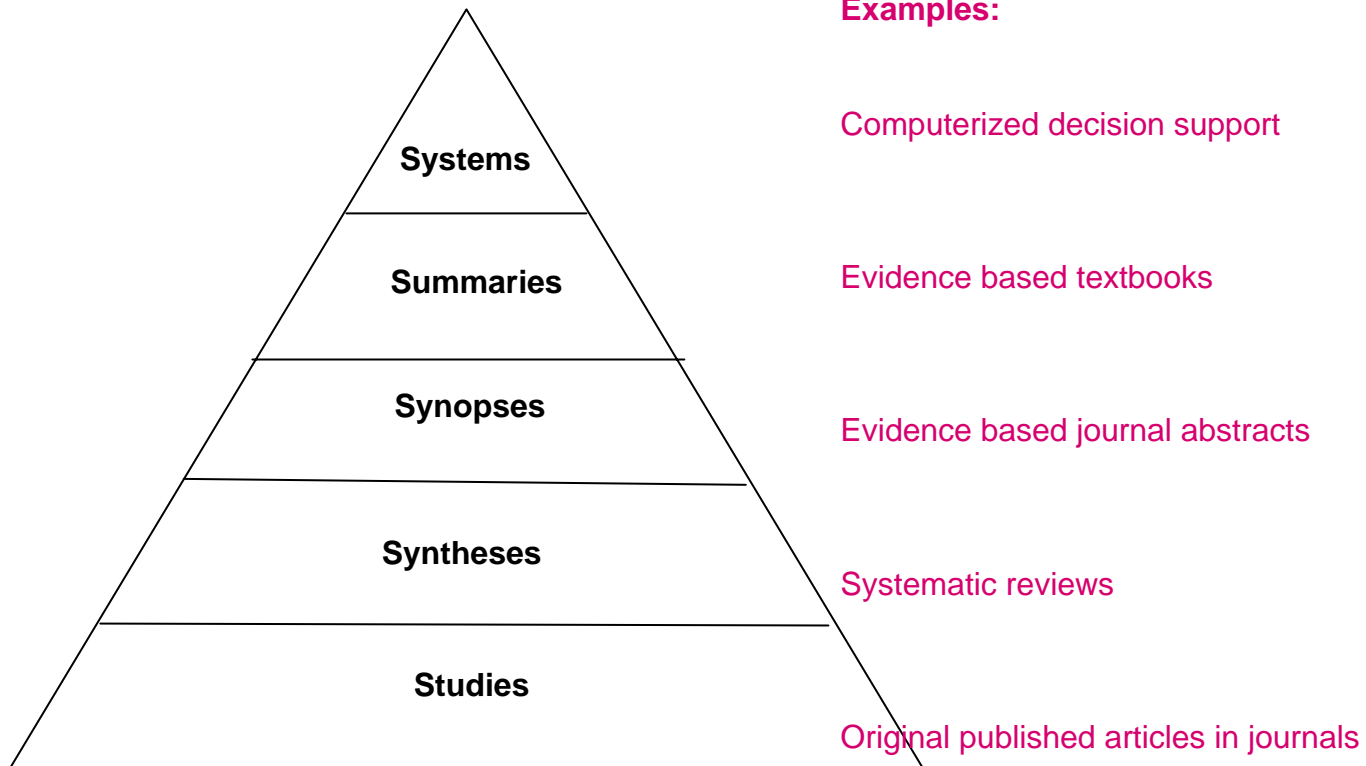
Beth Nash, MD



What is evidence based medicine?

- EBM is the integration of
 - best research evidence
 - clinical expertise
 - patient values

Levels of organization of evidence: 5S



*Haynes RB Of studies, syntheses, synopses, summaries, and systems: the '5S' evolution of information services for evidence-based health care decisions. *Evidence-Based Medicine* 2006;11:162-164

Evidence can change practice

- women in labor were given enemas to prevent infection
- patients were put at bed rest after a heart attack
- children with recurrent sore throats had their tonsils removed

Evidence may be ignored or acted upon slowly

- studies published in 1972 showed that corticosteroids could improve lung function in premature babies*
- didn't become common practice for another 20 years

*Liggins GC, Howie RN. A controlled trial of antepartum glucocorticoid treatments for prevention of the respiratory distress syndrome in premature infants. *Pediatrics* 1972; 50:515-25.

Pseudo-evidence based medicine is common

- biased data
- biased dissemination
- “cherry picking”
- drawing conclusions from observational data (ex: HRT)

Consumers and evidence

- want to read as much as they can about their conditions
- see the importance of evidence and are demanding it
- need the information “translated”
- understand that some decisions are a matter of choice

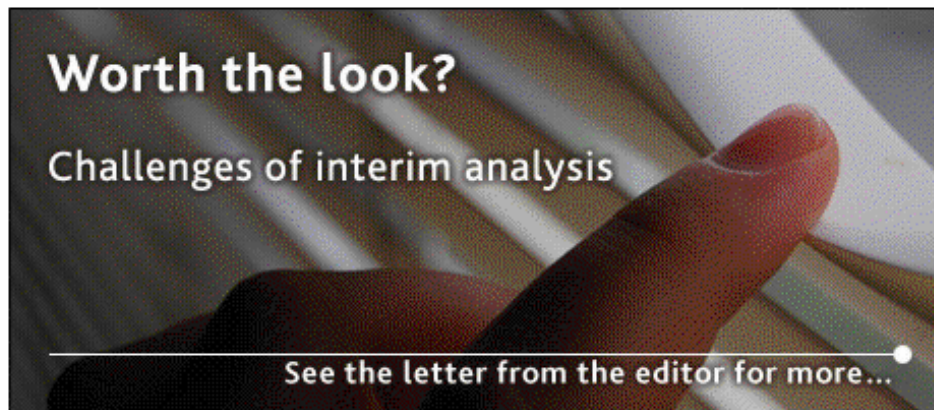
BMJ Clinical Evidence

- covers over 240 topics (“systematic reviews”)
- annual updating cycle
- international
- available on Web, PDA or as print Handbook
- *key differentiators:*
 - truly evidence based; rigorous methodology
 - includes evidence based literature surveillance
 - parallel consumer content

BMJ Clinical Evidence is one of the world's most authoritative medical resources for informing treatment decisions and improving patient care.

27 August 2007

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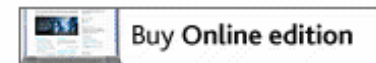
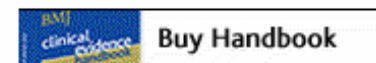
Latest updated reviews

- * [Chronic renal failure](#) (new)
- * [Asthma](#) (updated)
- * [Herniated disc](#) (updated)



Managing HIV infection

We present a series of systematic reviews on the challenges of



Robert Butler, Stuart Carney, Andrea Cipriani, John Geddes, Simon Hatcher, Jonathan Price, and Michael Von Korff

KEY POINTS

- Infection with the human immunodeficiency virus (HIV) usually leads to 8–10 years of asymptomatic infection before immune function deteriorates and AIDS develops.

Without treatment, about 50% of infected people will die of AIDS over 10 years. With treatment, prognosis depends on age, CD4 cell count and initial viral load.

- Concurrent sexually transmitted diseases increase the risk of transmission of HIV infection. Treating sexually transmitted infections may reduce the risk of an individual acquiring HIV, but we don't know whether it is effective on a population level.
- Antiretroviral treatment (especially combinations including zidovudine) may reduce the risk of HIV infection among health care workers who have been exposed to the infection.
- Triple antiretroviral treatments are now standard for people with HIV infection.

Boosted protease inhibitor based regimens may be more effective than standard protease based triple regimens at reducing viral load and preventing HIV progression and death.

Non-nucleoside reverse transcriptase inhibitor (NNRTI: efavirenz or nevirapine) based triple regimens increase viral suppression compared with protease inhibitor based triple regimens, although HIV progression rates may not be reduced.

Protease inhibitor based triple regimens are less effective than NNRTI based triple regimens at reducing viral load. Protease based regimens may increase cholesterol and triglyceride levels.

NRTI triple regimens offer similar viral suppression to protease inhibitor based triple regimens. Some NRTIs (stavudine) may be associated with lipodystrophy.

- We do not know whether early initiation of antiretroviral treatment using triple regimens improves long term survival compared with delayed treatment. The decision about when to start treatment currently depends on severity of symptoms and CD4 lymphocyte count, so that likely benefits can be balanced against risks of adverse effects of treatment.

Please visit www.clinicalevidence.com for full text and references

What are the effects of preventive interventions?

Likely To Be Beneficial	<ul style="list-style-type: none"> • Early diagnosis and treatment of sexually transmitted infections (in regions with emerging HIV epidemics) • Postexposure prophylaxis in healthcare workers*
Unknown Effectiveness	<ul style="list-style-type: none"> • Presumptive mass treatment of sexually transmitted infections

What are the effects of different antiretroviral drug treatment regimens in HIV infection?

What are the effects of different antiretroviral drug treatment regimens in HIV infection?

Likely To Be Beneficial	<ul style="list-style-type: none"> • Nucleoside reverse transcriptase inhibitor (NRTI) based triple regimens (similar viral suppression to protease inhibitor based triple regimens) • Protease inhibitor based triple regimens (similar viral suppression to nucleoside reverse transcriptase inhibitor (NRTI) triple regimens but less effective than non-nucleoside reverse transcriptase inhibitor (NNRTI) based triple regimens; may also be less effective than boosted protease inhibitor based regimens)
Unknown Effectiveness	<ul style="list-style-type: none"> • Early versus delayed antiretroviral treatment using triple antiretroviral regimens

Search date November 2005

* No RCTs: based on consensus and known effectiveness of antiretroviral drugs in the treatment setting

DEFINITION HIV infection refers to infection with the human immunodeficiency virus (HIV) type 1 or type 2. Clinically, this is characterised by a variable period (about 8–10 years on average) of asymptomatic infection, followed by repeated episodes of illness of varying and increasing severity as immune function deteriorates, resulting in acquired immune deficiency syndrome (AIDS). The type of illness varies by country, availability of specific treatments for HIV, and prophylaxis for opportunistic infections. Current treatments interrupt the life cycle of the virus without effecting a cure: mutations in the viral genome result in gradual resistance drift and increasing ineffectiveness of drug treatments.

INCIDENCE/PREVALENCE Worldwide estimates suggest that by December 2005 about 38.6 million people were living with HIV. In 2005, there were estimated to be 4.1 million new cases of HIV and 3.3 million deaths from AIDS. About 95% of HIV infections occur in the developing world. By 1999, occupationally acquired HIV infection in healthcare workers had been documented in at least 102 definite and 217 possible cases, although this is likely to be an underestimate.

AETIOLOGY/RISK FACTORS The major risk factor for transmission of HIV is unprotected heterosexual or homosexual intercourse. Other risk factors include needlestick injury, sharing drug injecting equipment, and blood transfusion. An HIV infected woman may also transmit the virus to her baby transplacentally, during birth, or through breast milk. This has been reported in 15–30% of pregnant women with HIV infection. Mother to child transmission of HIV is dealt with in a separate chapter. Not everyone who is exposed to HIV will become infected, although risk increases if exposure is repeated, at high dose, or through blood. There is at least a two to fivefold greater risk of HIV infection among people with sexually transmitted diseases.

PROGNOSIS Without treatment, about 50% of people infected with HIV will become ill and die from AIDS over about 10 years. A meta-analysis of 13 cohort studies from Europe and the USA looked at 12574 treatment naive people starting highly active antiretroviral therapy (HAART) with a combination of at least three drugs. A lower baseline CD4 cell count and higher baseline HIV-1 viral load were associated with an increased probability of progression to AIDS or death. Other independent predictors of poorer outcome were advanced age, infection through injection drug use, and a previous diagnosis of AIDS. The CD4 cell count at initiation was the dominant prognostic factor in people starting HAART. Deaths with the most favourable prognostic factors (aged < 50 years old, not infected

BMJ BestTreatments

- covers over 200 topics (US and UK versions)
- annual updating cycle
- *key differentiators:*
 - truly evidence based
 - plain language
 - patient centered
 - parallel content for professionals
 - treatments “rated”

HEALTH TOPICS

Women's health

Heavy periods
Menopause
PCOS
[More conditions...](#)

Pregnancy & childbirth

Childbirth tears
Postpartum depression
Premature birth
[More conditions...](#)

Staying healthy

High blood pressure
High cholesterol
Smoking
[More conditions...](#)

Blood

Hepatitis C
Malaria prevention (update)
Sickle cell disease
[More conditions...](#)

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ADHD
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OCD (update)
[More conditions...](#)

Fertility

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Erection problems
Prostate cancer
Prostate, enlarged
[More conditions...](#)

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Asthma in children
Bedwetting
Nosebleeds
[More conditions...](#)

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Deep vein thrombosis (update)
Peripheral vascular disease
Unstable angina
[More conditions...](#)

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Kidney infection
Stress incontinence (update)
UTIs in children
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Cancer

Breast cancer
Colon & rectal cancer
Lung cancer (update)
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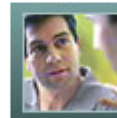
Eating & weight

Helping you to make better health decisions

Get the facts about the top treatment options.

We can tell you which treatments really work and which don't work, based on the best and most up-to-date medical research.

BMJ BestTreatments is the only Web site that rates thousands of health and medical treatments, based on how well they work. You'll know the best way to lower your blood pressure, manage your child's asthma and ease your back pain.



CONDITIONS AND TREATMENTS

Choose a condition

LATEST UPDATES

Colic in babies

Colic can be exhausting and worrying for new parents. Fortunately, most babies are over colic by the time they're four or five months old. In the meantime, there are things you can try to comfort your baby. [Read the latest research about colic.](#)

[Do you suffer from constipation?](#)

HIGHLIGHTS

Has your child been vaccinated against measles?

Not everyone realizes that this illness has a small chance of dangerous complications. The MMR vaccine can protect children against measles, and also against mumps and rubella (also known as German measles). Find out all you need to know about [measles](#) and the [MMR vaccine](#).