

4 - COMMON SEARCH ROUTINES - MEDLINE

Up to this point, you have done a comprehensive survey of your subject by retrieving and reading the “**Review**” citations. Also, you may have selected specific citations and used the “**Related Articles**” function to do specialized searches. Then, you have further refined your skills by using the “**Limits**” and “**Sub-headings**” and “**Multiple Terms**”. If you did nothing more than those basic operations, then you would have accomplished a very advanced research process. Here, using Sub-headings and Multiple Terms, we will provide some of the more likely searches which would be useful to both patients and professionals, alike.



DoctorInternet

In the treatment of any medical problem, there are only a few central considerations, which are listed below. In relative terms, they would apply to all stages: newly diagnosed and not yet in treatment, already in treatment, in remission, or recurred. These key questions are:

- 4(a) - Has the proper diagnosis and staging been made?
- 4(b) - What is the state-of-the-art treatment?
- 4(c) - To what extent has the treatment demonstrated efficacy in scientific terms?
- 4(d) - What are the adverse effects of the treatment?
- 4(e) - Does the treatment offer tangible benefits to the patient in terms of quality of living and length of life, or is it close to a zero sum equation, or is it likely to be a net detriment?

Of the thousands of medical therapies available today, few have been evaluated in a way that clearly identifies whether the intervention is beneficial or harmful to the patient .

Evidence-Based Family Medicine; by Walter W Rosser, M.D. and M. Sharon Shafir, M.D. (Department of Family & Community Medicine, University of Toronto, Toronto, Ontario, Canada); page 45; B.C. Decker, Inc. 1998.

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3(f) - What complimentary measures are useful in life-style modification and physical conditioning that might be used in place of or in support of conventional treatments?

4(g) - What is the status of current research and would participating in an experimental trial be appropriate for the particular patient?

These central issues can be address with the searches which follow. The general syntax is:

MeSH/Sub-heading
or
MeSH-1 AND MeSH-2

where MeSH is the name of a disease, a diagnostic procedure, a chemical or drug, a symptom, etc. When in doubt about the proper term, use the link to the “**MeSH Browser**” as described in Section 2. For the MeSH terms of diseases, you may also see the Glossary of Medical Diseases (ref. pg. 183) of this book.

4(A) - HAS THE PROPER DIAGNOSIS BEEN MADE?

SEARCH ROUTINES

THE KIND OF INFORMATION WHICH IS RETRIEVED

disease/**Diagnosis**

This associates the particular disease with the sub-heading “**diagnosis**”. Do not forget the slash “/”. Use initially with the **Publ Types** “Review” - i.e., “disease/Diagnosis AND review [pt]”; and then by itself.

Also, try these search commands.

disease **AND** diagnostic
technique

This associates the particular disease with a specific diagnostic technique. You must specify both the particular disease and diagnostic technique.

diagnostic technique **AND**
Diagnostic Errors

Diagnostic Errors is defined as - incorrect diagnoses after clinical examination or technical diagnostic procedures.

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4(A) - HAS THE PROPER DIAGNOSIS BEEN MADE?

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diagnostic technique AND
Sensitivity and Specificity

Sensitivity and Specificity - used for assessing the results of diagnostic and screening tests. Sensitivity represents the proportion of truly diseased persons in a screened population who are identified as being diseased by the test. It is a measure of the probability of correctly diagnosing a condition. Specificity is the proportion of truly nondiseased persons who are so identified by the screening test. It is a measure of the probability of correctly identifying a nondiseased person.

diagnostic technique AND
False Negative Reactions

False Negative Reactions - negative test results in subjects who possess the attribute for which the test is conducted. The labeling of diseased persons as healthy when screening in the detection of disease.

diagnostic technique AND
False Positive Reactions

False Positive Reactions - positive test results in subjects who do not possess the attribute for which the test is conducted. The labeling of healthy persons as diseased when screening in the detection of disease.

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4(B) - WHAT IS THE STATE-OF-THE-ART TREATMENT FOR THE PARTICULAR DISEASE?	
SEARCH ROUTINES	THE KIND OF INFORMATION WHICH IS RETRIEVED
disease/ Therapy	This associates the particular disease with the sub-heading " therapy ". Again, do not forget the dash "/". Use initially with the Publ Types "Review" and then by itself. The sub-heading "therapy" applies to general, unspecified therapy, multiple therapies, tissue and biological products therapies. There are different sub-headings for specific modalities - see below.
disease/ Drug Therapy	<i>Self-explicit.</i>
disease/ Diet Therapy	<i>Self-explicit.</i>
disease/ Surgery	<i>Self-explicit.</i>
disease/ Radiotherapy	<i>"Radio" refers to radiation.</i>
disease/ Rehabilitation	<i>Self-explicit.</i>
disease AND Practice Guidelines	Practice Guidelines - a set of directions or principles to assist the health care practitioner with patient care decisions about appropriate diagnostic, therapeutic, or other clinical procedures for specific clinical circumstances. Practice guidelines may be developed by government agencies at any level, institutions, organizations such as professional societies or governing boards, or by the convening

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4(B) - WHAT IS THE STATE-OF-THE-ART TREATMENT FOR THE PARTICULAR DISEASE?

SEARCH ROUTINES	THE KIND OF INFORMATION WHICH IS RETRIEVED
<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> disease AND Evidence-Based Medicine </div> <div style="border: 1px solid black; padding: 5px;"> disease AND Consensus Development Conference </div>	<p>of expert panels. They can provide a foundation for assessing and evaluating the quality and effectiveness of health care in terms of measuring improved health, reduction of variation in services or procedures performed, and reduction of variation in outcomes of health care delivered.</p> <p>Evidence-Based Medicine - the process of systematically finding, appraising, and using contemporaneous research findings as the basis for clinical decisions. Evidence-based medicine asks questions, finds and appraises the relevant data, and harnesses that information for everyday clinical practice. Evidence-based medicine follows four steps: formulate a clear clinical question from a patient's problem; search the literature for relevant clinical articles; evaluate (critically appraise) the evidence for its validity and usefulness; implement useful findings in clinical practice. The term "evidence based medicine" (no hyphen) was coined at McMaster Medical School in Canada in the 1980's to label this clinical learning strategy, which people at the school had been developing for over a decade.</p> <p>Consensus Development Conference - Designation for summary statements representing the majority and current agreement of physicians, scientists, and other professionals meeting to reach a consensus on a selected subject.</p>

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4(C) - TO WHAT EXTENT HAS THE TREATMENT DEMONSTRATED EFFICACY IN SCIENTIFIC TERMS?

SEARCH ROUTINES	THE KIND OF INFORMATION WHICH IS RETRIEVED
<div style="border: 1px solid black; padding: 5px;"> <p>disease AND Randomized Controlled Trial</p> </div>	<p>Randomized Controlled Trial - a clinical trial that involves at least one test treatment and one control treatment, concurrent enrollment and follow-up of the test- and control-treated groups, and in which the treatments to be administered are selected by a random process, such as the use of a random-numbers table. Treatment allocations using coin flips, odd-even numbers, patient social security numbers, days of the week, medical record numbers, or other such pseudo- or quasi-random processes, are not truly randomized and a trial employing any of these techniques for patient assignment is designated simply a CONTROLLED CLINICAL TRIAL [PUBLICATION TYPE].</p>
<div style="border: 1px solid black; padding: 5px;"> <p>disease AND Meta-Analysis</p> </div>	<p>Meta-Analysis - a quantitative method of combining results of independent studies (usually drawn from published literature) and synthesizing summaries and conclusions which may be used to evaluate therapeutic effectiveness, plan new studies, etc., with application chiefly in areas of research and medicine.</p>
<div style="border: 1px solid black; padding: 5px;"> <p>disease AND Controlled Clinical Trials OR Clinical Trials</p> </div>	<p>Controlled Clinical Trials - a clinical trial involving one or more test treatments, at least one control treatment, specified outcome measures for evaluating the studied intervention, and a bias-free method for assigning patients to the test treatment. The</p>

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4(C) - TO WHAT EXTENT HAS THE TREATMENT DEMONSTRATED EFFICACY IN SCIENTIFIC TERMS?

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treatment may be drugs, devices, or procedures studied for diagnostic, therapeutic, or prophylactic effectiveness. Control measures include placebos, active medicine, no-treatment, dosage forms and regimens, historical comparisons, etc. When randomization using mathematical techniques, such as the use of a random numbers table, is employed to assign patients to test or control treatments, the trial is characterized as a **RANDOMIZED CONTROLLED TRIAL [PUBLICATION TYPE]**. However, trials employing treatment allocation methods such as coin flips, odd-even numbers, patient social security numbers, days of the week, medical record numbers, or other such pseudo- or quasi-random processes are simply designated as controlled clinical trials.” **Clinical Trials.** A “controlled study designed to assess the safety and efficacy of new drugs, devices, treatments, or preventive measures in humans by comparing two or more interventions or regimens; prefer specific phase NTs.

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4(D) - WHAT ARE THE ADVERSE EFFECTS OF THE TREATMENT?	
SEARCH ROUTINES	THE KIND OF INFORMATION WHICH IS RETRIEVED
<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;">therapy/Adverse Effects</div>	<p>Adverse effects - used with drugs, chemicals, or biological agents in accepted dosage - or with physical agents or manufactured products in normal usage - when intended for diagnostic, therapeutic, prophylactic, or anesthetic purposes. It is used also for adverse effects or complications of diagnostic, therapeutic, prophylactic, anesthetic, surgical, or other procedures, but excludes contraindications for which "contraindications" is used. Includes "injurious effects", "undesirable effects", "side effects" in normal use; for complications following various procedures; see also /poisoning & /toxicity.</p>
<div style="border: 1px solid black; padding: 5px;">therapy AND Contraindications</div>	<p>Contraindications - used with drugs, chemicals, and biological and physical agents in any disease or physical state that might render their use improper, undesirable, or inadvisable. Used also with contraindicated diagnostic, therapeutic, prophylactic, anesthetic, surgical or other procedures.</p>

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4(E) - DOES THE TREATMENT OFFER TANGIBLE BENEFITS TO THE PATIENT IN TERMS OF QUALITY OF LIVING AND LENGTH OF LIFE, OR IS IT CLOSE TO A ZERO SUM EQUATION, OR IS IT LIKELY TO BE A NET DETRIMENT?

SEARCH ROUTINES	THE KIND OF INFORMATION WHICH IS RETRIEVED
<p>therapy AND Disease-Free Survival</p>	<p>Disease-Free Survival - period after successful treatment in which there is no appearance of the symptoms or effects of the disease.</p>
<p>therapy or disease AND Quality-Adjusted Life Years</p>	<p>Quality-Adjusted Life Years - a measurement index derived from a modification of standard life-table procedures and designed to take account of the quality as well as the duration of survival. This index can be used in assessing the outcome of health care procedures or services.</p>
<p>diagnostic technique AND Outcome and Process Assessment (Health Care) OR Quality-Adjusted Life Years</p>	<p>Outcome and Process Assessment (Health Care) - Evaluation procedures that focus on both the outcome or status (OUTCOME ASSESSMENT) of the patient at the end of an episode of care - presence of symptoms, level of activity, and mortality; and the process (PROCESS ASSESSMENT) - what is done for the patient diagnostically and therapeutically. Quality of Life - subjective measurement of an individual's well being.</p>

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4(F) - WHAT MEASURES ARE USEFUL IN LIFE-STYLE MODIFICATION AND PHYSICAL CONDITIONING THAT MIGHT BE USED IN REPLACE OF OR IN SUPPORT OF CONVENTIONAL TREATMENTS?

SEARCH ROUTINES	THE KIND OF INFORMATION WHICH IS RETRIEVED
disease/Prevention & Control	Prevention & control - used with disease headings for increasing human or animal resistance against disease (e.g., immunization), for control of transmission agents, for prevention and control of environmental hazards, or for prevention and control of social factors leading to disease. It includes preventive measures in individual cases. Includes "preventive therapy"; includes vaccination; for prevention on epidemiologic or personal level.
disease AND Disease Susceptibility	Disease Susceptibility - a constitution or condition of the body which makes the tissues react in special ways to certain extrinsic stimuli and thus tends to make the individual more than usually susceptible to certain diseases.

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4(G) - WHAT IS THE STATUS OF CURRENT RESEARCH AND WOULD PARTICIPATING IN AN EXPERIMENTAL TRIAL BE APPROPRIATE FOR THE PARTICULAR PATIENT?

SEARCH ROUTINES	THE KIND OF INFORMATION WHICH IS RETRIEVED
<div style="border: 1px solid black; padding: 5px; width: fit-content;">disease or therapy AND Phase I Clinical Trial</div>	<p>Phase I Clinical Trial - clinical trials performed in a small number of subjects to assess the metabolism and pharmacokinetics of drugs and to evaluate safety of drugs, devices, diagnostics or techniques.</p>
<div style="border: 1px solid black; padding: 5px; width: fit-content;">disease or therapy AND Phase II Clinical Trial</div>	<p>Phase II Clinical Trial - a pre-planned, usually controlled, clinical study of the safety and efficacy of diagnostic, therapeutic, or prophylactic drugs, devices, or techniques based on several hundred volunteers, including a limited number of patients, and conducted over a period of about two years in either the United States or a foreign country.</p>
<div style="border: 1px solid black; padding: 5px; width: fit-content;">disease or therapy AND Phase III Clinical Trial</div>	<p>Phase III Clinical Trial - a pre-planned, usually controlled, clinical study of the safety and efficacy of diagnostic, therapeutic, or prophylactic drugs, devices, or techniques after phase II trials. A large enough group of patients is studied and closely monitored by physicians for adverse response to long-term exposure, over a period of about three years in either the United States or a foreign country.</p>
<div style="border: 1px solid black; padding: 5px; width: fit-content;">disease or therapy AND Phase IV Clinical Trial</div>	<p>Phase IV Clinical Trial - planned post-marketing studies of diagnostic, therapeutic, or prophylactic drugs, devices, or techniques that have been approved for general sale after clinical trials, phases I, II, and III.</p>

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4(H) - RESEARCHING DRUGS

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Researching a specific drug is done according to the same procedures as any other MeSH term; however special procedures may be required in order to find the correct chemical name for the drug. Drugs are commonly known by their trade names; but the research is usually reported according to the generic, chemical names. Thus, the trick is to find the right term. Try the usual routine by using the “**MeSH Browser**” link, entering the drug name, and selecting “**Go**”. That may be sufficient, leading you to the proper term. If that is not successful, see the instructions in the section entitled “Finding a Chemical Name” in section **8 Researching a Drug or Chemical**.

drug/**Therapeutic Use**

Therapeutic Use - used with drugs, biological preparations, and physical agents for their use in the prophylaxis and treatment of disease. It includes veterinary use. For treatment or preventive use of drugs or physical agents in clinical or experimental human or animal disease.

drug/**Administration & Dosage**

Administration & Dosage - used with drugs for dosage forms, routes of administration, frequency and duration of administration, quantity of medication, and the effects of these factors.

drug/**Pharmacology**

Pharmacology - used with drugs and exogenously administered chemical substances for their effects on living tissues and organisms. It includes acceleration and inhibition of physiological and biochemical processes and other pharmacologic mechanisms of action. With exogenous chemicals only; includes "effect", "mechanism of action", "mode of action";

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4(H) - RESEARCHING DRUGS

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not for pharmacokinetics (= /pharmacokinetics); see also /adverse effects, /poisoning & /toxicity.

drug/**Adverse Effects**

Adverse Effects - used with drugs, chemicals, or biological agents in accepted dosage - or with physical agents or manufactured products in normal usage - when intended for diagnostic, therapeutic, prophylactic, or anesthetic purposes. It is used also for adverse effects or complications of diagnostic, therapeutic, prophylactic, anesthetic, surgical, or other procedures, but excludes contraindications for which "contraindications" is used. Includes "injurious effects", "undesirable effects", "side effects" in normal use; for complications following various procedures; see also /poisoning & /toxicity.

drug/**Contraindications**

Contraindications - used with drugs, chemicals, and biological and physical agents in any disease or physical state that might render their use improper, undesirable, or inadvisable. Used also with contraindicated diagnostic, therapeutic, prophylactic, anesthetic, surgical or other procedures. With substances or physical agents possibly rendering their use improper, undesirable, or inadvisable in the presence of existing conditions & with contraindicated procedures.

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4(H) - RESEARCHING DRUGS	
SEARCH ROUTINES	THE KIND OF INFORMATION WHICH IS RETRIEVED
drug/ Toxicity	<p>Toxicity - used with drugs and chemicals for experimental human and animal studies of their ill effects. It includes studies to determine the margin of safety or the reactions accompanying administration at various dose levels. It is used also for experimental studies of exposure to environmental agents. For experimental human & animal studies; includes margin of safety & experimental exposure to environmental agents; see also /adverse effects & /poisoning.</p>

4(I) - SUNDRY SEARCH STRATEGIES	
SEARCH ROUTINES	THE KIND OF INFORMATION WHICH IS RETRIEVED
disease or therapy AND Prognosis	<p>Prognosis - the prediction as to the probable outcome of a disease or disorder as indicated by the nature and symptoms of the case.</p>
disease AND Symptoms and General Pathology	<p>Symptoms and General Pathology - manifestations of disease and pathological conditions which may occur in various diseases and different organs.</p>
anatomical site AND symptom	<p>This search might be useful in pre-clinical evaluation of a symptom. Examples might be: "feet AND</p>

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4(I) - SUNDRY SEARCH STRATEGIES

SEARCH ROUTINES	THE KIND OF INFORMATION WHICH IS RETRIEVED
	numbness"; "chest AND pain"; "stomach AND burning". Experiment with different combinations.
disease AND Disease Progression	Disease Progression - the worsening of a disease over time. This concept is most often used for chronic and incurable diseases where the stage of the disease is an important determinant of therapy and prognosis.
disease AND Recurrence	Recurrence - the return of symptoms after a remission (diminution or abatement or lessening in severity) of a disease or after therapy. Relapse is often considered a synonym or in many texts as the return of manifestations of a disease after an interval of improvement. Recrudescence, also often a synonym for recurrence, differs from relapse in that a recrudescence occurs after days or weeks while a relapse occurs after weeks or months. The terms in the literature are not used as precisely as the dictionaries define them.
therapy AND Iatrogenic Disease	Iatrogenic Disease - any adverse condition in a patient occurring as the result of treatment by a physician, surgeon, or other health professional, especially infections acquired by the patient during the course of treatment.

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4(i) - SUNDRY SEARCH STRATEGIES

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disease AND **Severity of Illness Index**

Severity of Illness Index - levels of severity of illness within a diagnostic group which are established by various measurement criteria.

disease AND **Survival Rate**

Survival Rate - the proportion of survivors in a group, e.g., of patients, studied and followed over a period, or the proportion of persons in a specified group alive at the beginning of a time interval who survive to the end of the interval. It is often studied using life table methods.

disease AND **Prognosis**

Prognosis - prediction as to the probable outcome of a disease or disorder as indicated by the nature and symptoms of the case.

disease AND **Medical Futility**

Medical Futility - the absence of a useful purpose or useful result in a diagnostic procedure or therapeutic intervention. The situation of a patient whose condition will not be improved by treatment or instances in which treatment preserves permanent unconsciousness or cannot end dependence on intensive medical care.

disease/treatment AND **Disease-Free Survival**

Disease-Free Survival - period after successful treatment in which there is no appearance of the symptoms or effects of the disease.

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4(i) - SUNDRY SEARCH STRATEGIES	
SEARCH ROUTINES	THE KIND OF INFORMATION WHICH IS RETRIEVED
disease/treatment AND Karnofsky Performance Status	Karnofsky Performance Status - a performance measure for rating the ability of a person to perform usual activities, evaluating a patient's progress after a therapeutic procedure, and determining a patient's suitability for therapy. It is used most commonly in the prognosis of cancer therapy, usually after chemotherapy and customarily administered before and after therapy. It was named for Dr. David A. Karnofsky, an American specialist in cancer chemotherapy.
disease/treatment AND Treatment Failure	Treatment Failure - a measure of the quality of health care by assessment of unsuccessful results of management and procedures used in combating disease, in individual cases or series.
disease AND Treatment Outcome	Treatment Outcome - evaluation undertaken to assess the results or consequences of management and procedures used in combating disease in order to determine the efficacy, effectiveness, safety, practicability, etc., of these interventions in individual cases or series.
disease AND Watchful Waiting	Watchful Waiting - an approach in medicine in which the patient is monitored closely without medical treatment to evaluate the trend and course of a disease. Palliative and life-style modifications

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4(i) - SUNDRY SEARCH STRATEGIES

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may be applied with the hope that restoration will occur without treatment.

disease/treatment/other AND
History of Medicine

History of Medicine - obtaining a historical perspective on a subject can be interesting and useful. To be more definitive, use one of the following MeSH terms:

History of Medicine, Modern

(The period from 1601 A.D. to the present)

History of Medicine, Early Modern

(The period from 1451 through 1600 A.D.)

History of Medicine, 20th Cent. (1900-1999)

History of Medicine, 19th Cent. (1800-1899)

History of Medicine, 18th Cent. (1700-1799)

History of Medicine, 17th Cent. (1600-1699)

History of Medicine, 16th Cent. (1500-1599)

History of Medicine, 15th Cent. (1400-1499).

