

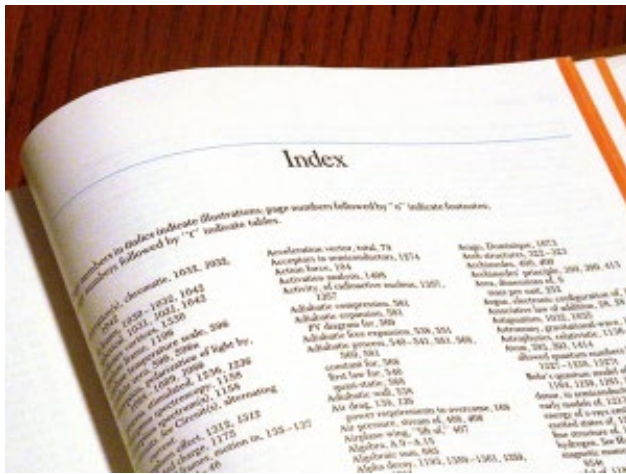
The Search



Objectives

- Understand article **indexing** and how this effects searching
- Differentiate between **subject headings** vs keywords
- Become aware of the steps in creating and executing a **search strategy**
- Understand **Google** search functions for statistics and government documents like policies





Indexing

- The process of assigning labels to an article
- **Subject Headings**
 - MeSH, Emtree, CINAHL subject headings
- Disease, drugs, therapies, location, population of interest, anatomy...



What is a subject heading?

- Controlled vocabulary
- Most databases have their own unique set
- Pulling information together: very powerful if used strategically
- Less need to use synonyms
- Less chance that you'll miss an important publication in your area of research



Subject headings vs keywords

- Often necessary to use both
- Keywords are handy to cover more esoteric concepts
- Be careful with spelling keywords
- Use wildcard operators to cover multiple keywords in one search (e.g. nurs*)



Subject headings in an indexed article

Improving Patient Flow in the Emergency Department by Placing a Family Nurse Practitioner in Triage: A Quality-Improvement Project.

Authors: [Hayden, Crystal](#); [Burlingame, Penney](#); [Thompson, Holly](#); [Sabol, Valerie K.](#)

Affiliation: Onslow Memorial Hospital, 317 Western Blvd Jacksonville, NC 28540

Source: [JEN: Journal of Emergency Nursing](#) (J EMERG NURS), 2014 Jul; 40 (4): 346-51.

Publication Type: journal article

Language: English

Major Subjects: [Emergency Service -- Administration](#)
[Family Nurse Practitioners](#)
[Advanced Nursing Practice](#)
[Triage](#)
[Quality Improvement](#)
[Organizational Efficiency](#)

Minor Subjects: [Emergency Patients](#); [Length of Stay](#); [Outpatients](#)

Journal Subset: [Core Nursing](#); [Nursing](#); [Peer Reviewed](#); [USA](#)

Special Interest: [Advanced Nursing Practice](#); [Emergency Care](#); [Quality Assurance](#)



Keywords in an indexed article

The impact of an acute care surgery clinical care pathway for suspected appendicitis on the use of CT in the emergency department.

Authors: Ball, Chad G; Dixon, Elijah; MacLean, Anthony R; Kaplan, Gilaad G; Nicholson, Lynn; Sutherland, Francis R

Source: [Canadian Journal of Surgery](#) (CAN J SURG), 2014 Jun; 57 (3): 194-8.

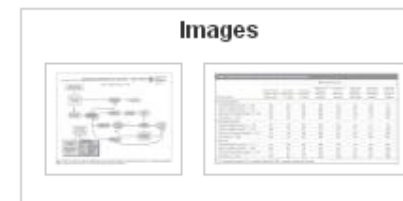
Publication Type: journal article - research

Language: English

Major Subjects: [Appendicitis -- Radiography](#)
[Critical Path](#)
[Emergency Service -- Standards](#)
[Quality Improvement -- Statistics and Numerical Data](#)
[Tomography, X-Ray Computed -- Utilization](#)

Minor Subjects: [Acute Disease](#); [Adult](#); [Alberta](#); [Appendectomy](#); [Appendicitis -- Surgery](#); [Emergency Service -- Statistics and Numerical Data](#); [Prospective Studies](#); [Human](#); [Outcomes \(Health Care\)](#); [Time Factors](#); [Tomography, X-Ray Computed -- Standards](#); [Tomography, X-Ray Computed -- Statistics and Numerical Data](#); [Triage](#)

Abstract: BACKGROUND: The natural evolution of an acute care surgery (ACS) service is to develop disease-specific care pathways aimed at quality improvement. Our primary goal was to evaluate the implementation of an ACS pathway dedicated to suspected appendicitis on **patient flow** and the use of computed tomography (CT) in the emergency department (ED). METHODS: All adults within a large health care system (3 hospitals) with suspected appendicitis were analyzed during our study period, which included 3 time periods: pre- and postimplementation of the disease-specific pathway and at 12-month follow-up. RESULTS: Of the 1168 consultations for appendicitis that took place during our study period, 349 occurred preimplementation, 392 occurred postimplementation, and 427 were follow-up visits. In all, 877 (75%) patients were admitted to the ACS service. Overall, 83% of patients underwent surgery within 6 hours. The mean wait time from CT request to obtaining the CT scan decreased with pathway implementation at all sites (197 v. 143 min, $p < 0.001$). This improvement was sustained at 12-month followup (131 min, $p < 0.001$). The pathway increased the number of CTs completed in under 2 hours from 3% to 42% ($p < 0.001$). No decrease in the total number of CTs or the pattern of ultrasonography was noted ($p = 0.42$). Wait times from ED triage to surgery were shortened (665 min preimplementation, 633 min postimplementation, 631 min at the 12-month follow-up, $p = 0.040$). CONCLUSION: A clinical care pathway dedicated to suspected appendicitis can decrease times to both CT scan and surgical intervention.



Search strategy

- Well-framed question = good search strategy
- All major components are addressed
- Synonyms are searched systematically
- Triangulation of multiple sources



Constructing a basic search strategy

What are the most evidence-based education techniques to increase compliance with handwashing?



- Education
- Handwashing
- Compliance



Constructing a basic search strategy

- Step 1: find all applicable subject headings
- Step 2: add any needed keywords
- Step 3: combine major components
- Step 4: apply limits



Ovid MEDLINE(R) In-Process & Other Non-Indexed Citations and Ovid MEDLINE(R) 1946 to Present

word or phrase
truncation)

Keyword Author Title Journal

handwashing

Search

▼ **Limits** *(close)*

Map Term to Subject Heading

Your term mapped to the following Subject Headings:

Click on a subject heading to view more general and more specific terms within the tree.

Include All Subheadings

Combine with: OR ▼

Continue >>

Select	Subject Heading	Explode	Focus
<input checked="" type="checkbox"/>	Hand Hygiene	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Hand Disinfection	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Cross Infection	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Infection Control	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Personnel, Hospital	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Hygiene	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Disinfection	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Health Personnel	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Antisepsis, Antiseptics	<input type="checkbox"/>	<input type="checkbox"/>

[-] Communicable Disease Control

Animal Culling

Contact Tracing

Disease Notification

Fumigation

[-] Hand Hygiene

Hand Disinfection

[+] Immunization

[+] Infection Control

Mandatory Testing

[+] Pest Control

[+] Sanitation

Universal Precautions





Subheadings for: **exp Hand Hygiene**


Combine with:


Include All Subheadings


-- or choose one or more of these subheadings --


 /ec - Economics

 /hi - History

 /is - Instrumentation

 /mt - Methods

 /og - Organization & Administration

 /st - Standards

 /sn - Statistics & Numerical Data

 /td - Trends



i Ovid MEDLINE(R) In-Process & Other Non-Indexed Citations and Ovid MEDLINE(R) 1946 to Present

word or phrase
(truncation)

Keyword Author Title Journal

compliance

Search

▼ **Limits** *(close)*

Include Multimedia

Map Term to Subject Heading

Your term mapped to the following Subject Headings:

Click on a subject heading to view more general and more specific

Term mapped through permuted index

Include All Subheadings

Combine with: **OR** ▼

Continue >>

Select	Subject Heading	Explode	Focus	Scope
<input checked="" type="checkbox"/>	Compliance	<input type="checkbox"/>	<input type="checkbox"/>	i
<input type="checkbox"/>	Lung Compliance	<input type="checkbox"/>	<input type="checkbox"/>	i
<input type="checkbox"/>	Patient Compliance	<input type="checkbox"/>	<input type="checkbox"/>	i
<input type="checkbox"/>	compliance.mp. search as Keyword			



Scope Note for: *Compliance*

MeSH HEADING: COMPLIANCE

SCOPE: Distensibility measure of a chamber such as the lungs (LUNG COMPLIANCE) or bladder. Compliance is expressed as:

NOTE: NIM; note category; LUNG COMPLIANCE is available; do not confuse with PATIENT COMPLIANCE

YEAR of ENTRY: 91(68); was see under ELASTICITY 1968-90 (Prov 1968-69)

SEARCH NOTE: use ELASTICITY to search COMPLIANCE 1968-74 (as Prov 1968-69)

REFERENCES:

Used For:

compliance



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i Ovid MEDLINE(R) In-Process & Other Non-Indexed Citations and Ovid MEDLINE(R) 1946 to Present

Enter keyword or phrase
(* or \$ for truncation)

Keyword Author Title Journal

complian*

Search

▼ **Limits** *(close)*

Include Multimedia

Map Term to Subject Heading

Include All Subheadings

Combine with: **OR** ▼

Continue >>

Select	Subject Heading
<input type="checkbox"/>	Compliance
<input type="checkbox"/>	Lung Compliance
<input type="checkbox"/>	Patient Compliance
<input checked="" type="checkbox"/>	compliance.mp. search as Keyword



▼ Search History (4)			
<input type="checkbox"/>	# ▲	Searches	Results
<input type="checkbox"/>	1	exp *Hand Hygiene/	3292
<input type="checkbox"/>	2	exp Education/	633290
<input type="checkbox"/>	3	complan*.mp.	140676
<input type="checkbox"/>	4	1 and 2 and 3	143

6. Understanding practice: factors that influence physician hand hygiene **compliance**.

Squires JE; Linklater S; Grimshaw JM; Graham ID; Sullivan K; Bruce N; Gartke K; Karovitch A; Roth V; Stockton K;

Infection Control & Hospital Epidemiology. 35(12):1511-20, 2014 Dec.

[Journal Article. Research Support, Non-U.S. Gov't]



Other strategies for searching

- Reverse citation searching
- Bibliography mining



Reverse citation searching with Google Scholar

6. Understanding practice: factors that influence physician hand hygiene **compliance**.

Squires JE; Linklater S; Grimshaw JM; Graham ID; Sullivan K; Bruce N; Gartke K; Karovitch A; Roth V; Stockton K; Trickett J; Worthington J; Su

Infection Control & Hospital Epidemiology. 35(12):1511-20, 2014 Dec.

[Journal Article. Research Support, Non-U.S. Gov't]

☰ Google Scholar

understanding practice factors that influence physician hand hygiene complia



Understanding practice: factors that influence physician hand hygiene compliance

JE Squires, S Linklater, JM Grimshaw... - *Infection Control & ...*, 2014 - cambridge.org

Hand hygiene is recognized globally as a leading measure to reduce healthcare-associated infection.¹⁻⁴ **Hand hygiene** compliance, however, is unacceptably low.^{5,6} **Physicians** in particular are repeatedly observed as being poor compliers.⁶ Promotion of **hand hygiene** is a complex issue.² To develop interventions with more pronounced and sustainable effects, knowledge of the behavioral determinants to **hand hygiene** is needed.⁷ While ...

☆ Cited by 18 [Related articles](#) [All 9 versions](#)




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Bibliography mining

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Go to: 

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2. Allegranzi B, Conway L, Larson E, Pittet D. Status of the implementation of the World Health Organization multimodal hand hygiene strategy in United States of America health care facilities. *American Journal of Infection Control*. 2014;42:224–230. [[PMC free article](#)] [[PubMed](#)]
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6. Dixit D, Hagtvedt R, Reay T, Ballermann M, Forgie S. Attitudes and beliefs about hand hygiene among paediatric residents: A qualitative study. *BMJ Open*. 2012;2:e002188. [[PMC free article](#)] [[PubMed](#)]
7. Erasmus V, Brouwer W, van Beeck EF, Oenema A, Daha TJ, Richardus JH, Brug J. A qualitative exploration of reasons for poor hand hygiene among hospital workers: Lack of positive role models and of convincing evidence that hand hygiene prevents cross-infection. *Infection Control and Hospital Epidemiology*. 2009;30:415–419. [[PubMed](#)]
8. Flodgren G, Conterno LO, Mayhew A, Omar O, Pereira CR, Shepperd S. Interventions to improve professional adherence to guidelines for prevention of device-related infections. *The Cochrane*



Search strategies in Google

- **AND** is the default in Google
- **NOT** logic can be used by excluding terms with the minus (-) operator
 - *Example:* diabetes insipidus -mellitus
- **OR** logic can be used by typing OR in capital letters
 - *Example:* breast cancer man OR men OR male

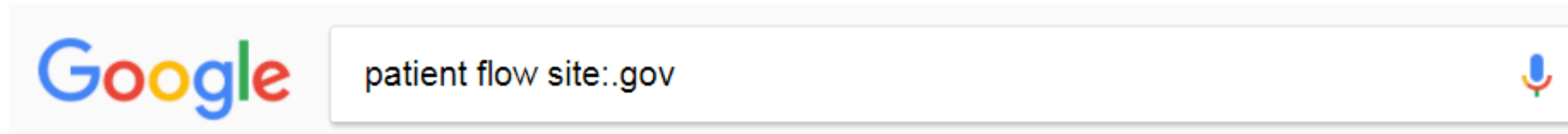


Search strategies in Google

- Google search operators:
 - **Site:** searching within a particular website or domain
 - **Related:** searching for related websites
 - **“Phrase”** searching for exact word order



Domain-specific searching



Improving Patient Flow and Reducing Emergency Department ... - AHRQ

<https://www.ahrq.gov/research/findings/final-reports/ptflow/index.html> ▼

This guide presents step-by-step instructions that can be used by hospitals in planning and implementing **patient flow** improvement strategies to ease ...

[PDF] Improving Patient Flow and Reducing Emergency Department ...

<https://www.ahrq.gov/sites/default/files/publications/files/ptflowguide.pdf> ▼

by M McHugh - 2012 - Cited by 47 - Related articles

Oct 17, 2011 - Improving **Patient Flow** and Reducing Emergency Department Crowding: A Guide for Hospitals. Megan McHugh, PhD. Kevin Van Dyke, MPP.

Improving emergency department patient flow - NCBI - NIH

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5051606/>

by PRE Jarvis - 2016 - Cited by 2 - Related articles

Jun 30, 2016 - Emergency departments (ED) face significant challenges in delivering high quality and timely **patient** care on an ever-present background of ...

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