# Author Keywords \& MeSH 

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## Author Keywords 중요성

## Systematic Reviews in PubMed



## 근거중심의학환경에서의 문헌검색 중요성

<체계적 문헌고찰(Systematic Reviews, SR)연구 흐름도>


## 체계적 문헌 고찰 검색 전략

- Systematic Reviews(SR): 명백하고 재현성 있는 방 법론에 따라 확고한 연구 목적과 방법으로 이루 어진 일차 문헌들의 개괄
- 포괄적으로 검색하면서도 배제되지 않게 검색전 략을 수립
- 광범위하게 검색하기 위한 통제어가 필수적임 - 대표적으로 MeSH 사용
- 검색: 통제어와 키워드 조합



## Text Words in PubMed

- Text Words [TW]
all words and numbers in the title, abstract, other abstract, MeSH terms, MeSH
Subheadings, Publication Types, Substance Names, Personal Name as Subject, Corporate Author, Secondary Source, Comment/Correction Notes,
Other Terms (see Other Term [OT] above) typically non-MeSH subject terms (keywords)<추가


## Author Keywords in PubMed

- 2013-
- PubMed now displays author keywords when supplied by publishers. NLM will not review author keywords for accuracy or add them to non-publisher supplied citations.
- Author Keywords are available on the Abstract, MEDLINE, and XML displays.

Torre S. Author Keywords in PubMed. NLM Tech Bull. 2013 Jan-Feb;(390):e2.

## Author Keywords on the Abstract Display



## Author Keywords on the Abstract Display


Very Early Onset of Amiodarone-Induced Pulmonary Toxicity.
Lee W, Ryu DR, Han SS, Ryu SW, Cho BR, Kwon H, Kim BR.
Department of Internal Medicine, Kangwon National University Hospital Cruncheon, Korra. rdro203@gmail com
Department of L aboratory Medicine. Kangwon National University Hospital. Chuncheon. Korea.
Abstract

 infarction ventricular t
amio darone therapy.


- Publication Types:

MesH Terms:

- Amiodarone
- Dimaprit
- Drus Toxicity
$: \frac{\text { Humans }}{\text { Iffaccion }}$
$\frac{\text { Infarction }}{\text { Midole Aged }}$
- Myocardial Infarction
- Substances:
: Amiodaronc
-Author Keywords:
Amiodarone
Antiyturias cardia
- Author Keywords:
- Amiodarone
- Arrhythmias, cardiac
- Drug toxicity
- Myocardial infarctions

| Web of Science ${ }^{\text {® }}$ | 듣든 |
| :---: | :---: |
| Findite soommw NCBI | 인용 횟수: 198 |
| Diet, smoking and cardiovascular risk in people with schizophrenia - Descriptive study | (이용 일림 만툴가 |
| 才刃: Hecreadie, RG (McCrasde RG) |  |
|  | Sweeting, Joanna Postmotem analysis of cardiovas cular deaths in schizoohirenia' $\AA$ 10-vear |
|  | reven SCHIOPHRENARESERRCH, NOV 2013. |
| 인응 횟수: 197 (Web ofsciencell/h) |  |
|  | Fan, Zuoxu. Schizuphrenia and the iskof cardivascular diseases: A meta-analysis of thirten cohort studies. |
| 초로:: Background Physical heath of people wihh sthizophrenia is poor and they cie earyffrom cardicuascular disease. | JOURNALOF PSYCHATRIC RESEARCH, NOV 2013. |
| Aims To describe the lifestlye of people with schizophrenia through diet, smoking habits, weight and exercise, and to report risk of coronay heart disease (CHD). <br> Method Dietary habits of 102 community-oweling people with schizoohrenia were assessed by the Scottish Heath Suvey Cuestionnaiie. Aso assessed were smoxing habitis, physical activit, biochemical indices of nutrition and titure risk of CHDD. | Roberts, Seren Haf. An ethnographic study ofthe incentives and bariers to lifitstye intenentions for people with severe menta ilress. JOURNAL OF ADVANCED NURSING, NOV 2013 |
|  the levels for consumplion of milk and polatoes. Hean number of fuit and vegetable portions consumed per week was 16 (s.d.: 14 ), 71 (70\%) were smokers, 25 (88\%) 'emales | 추가점보 |
| olestero: high-censity ilpopocteln ratio, ano 64 ( $74 \%$ alow apha-tocopherol: cholesterol fatio. Mean 10 -year risk of CHD in males was $10.5 \%$ ( $\mathrm{s} . \mathrm{d}=\mathrm{e}$ ) and in females $7 \%$ ( $\mathrm{s} . \mathrm{d}=\mathrm{B}$ ). | - 학술제 impact factor 보기(Journal Citation Reports애세 (H) |
|  mental heath | 수점 저안 |
| Dedaration ofinterst Funded by Chief Scienisist ofice, Scotilish Execulive. |  주십시오 |
| 석밸벤포: WOS:000187250300011 |  |
|  |  |
|  SCOTLAND; ADULTS |  |
| 교선 겆 주소: McCreadie, RG(표신재저) $\pm$ Crichton Rojal Hosp, Dept Clin Res, Dumfies DG1 4TG, Scotand. |  |
| 연기기랜몀 및 주소: <br> -11] Crichton Roral Hosp, Dapt Cilin Res, Dumfies DG1 4TG, Scolland |  |

## ICMJE 2005 URM의 Key words권고

- Some journals request that, following the abstract, authors provide, and identify as such, 3 to 10 key words or short phrases that capture the main topics of the article.
- These will assist indexers in cross-indexing the article and may be published with the abstract.
- Terms from the Medical Subject Headings (MeSH) list of Index Medicus should be used
- if suitable MeSH terms are not yet available for recently introduced terms, present terms may be used.
http://www.icmje.org/2005_urm.pdf



## MeSH 로 색인하고 검색하면 관련 유사어, 동의어를 모두 입력하지 않아도 됨

| Keywords |  |
| :---: | :---: |
| - | Betapharm Brand of Amiodarone Hydrochloride |
| - | Cordarone |
| - | Cordarex |
| - | Amiodarex |
| - | Sanofi Winthrop Brand of Amiodarone Hydrochloride |
| - | Wyeth Brand of Amiodarone Hydrochloride |
| - | Kordaron |
| - | Trangorex |
| - | Amiodarona |
| - | Berenguer Infale Brand of Amiodarone Hydrochloride Amiohexal |
| - | Hexal Brand of Amiodarone Hydrochloride |
| - | SKF 33134-A |
| - | SKF 33134 A |
| - | SKF 33134A |
| - | Braxan |
|  | Armstrong Brand of Amiodarone Hydrochloride |
| - | Corbionax |
|  | G Gam Brand of Amiodarone Hydrochloride |
| - | L-3428 |
|  | L 3428 |
|  | L3428 |
| - | Ortacrone |
|  | Pharma Investi Brand of Amiodarone Hydrochloride |
|  | Leurquin Brand of Amiodarone Hydrochloride |
| . | Tachydaron |
|  | ASTA Medica Brand of Amiodarone Hydrochloride |
| - | Aratac |
|  | Alphapharm Brand of Amiodarone Hydrochloride |

## "amiodarone"[MeSH Terms]의 Entry Terms인 "Aratac"의 PubMed 검색



| Display Settings: (v) Abstract | KC. ${ }_{\text {a }}^{\text {kancu }}$ |
| :---: | :---: |
| Korean Circ. 2013 Oct,43(10):699-701. Epub 2013 Oct 30. |  |
| Very Early Onset of Amiodarone-Induced Pulmonary Toxicity. |  |
| Lee W, Ryu DR, Han SS, Ryu SW, Cho BR, Kwon H, Kim BR. |  |
| Department of Internal Medicine, Kangwon National University Hospital, Chuncheon, Korea. Save item |  |
| Abstract ${ }^{\text {a }}$ Add to |  |
| Amiodarone is a widely used antiarrhythmic agent. Among its various adverse effects, amiodarone-induced pulmonary toxicity (APT) is the most life |  |
| time. However, amiodarone therapy in short-term duration induced APT was rarely re presented with symptoms of APT after a few days of therapy for post-myocardial infa treatment, awareness and high suspicion of this rare type of early onset APT is cruc | Related c <br> Amiodarone rare compliq |
| KEYWORDS: Amiodarone, Arrhythmias, cardiac, Drug toxicity, Myocardial infarctions | Long-term I manaqemer |
| PMID: 24255655 [Publted - as supplied by publisher] PMCID: PMC3831017 Free PMC Article | Amiodarone hyperthyroid |
| Images from this publication. See all images (2) Free text | Review [Ea <br> pulmonary t |
|  | Review The the manage |
| LinkOut - more resources | PubRea |



## Author Keywords 분석

MeSH 용어와 Author Keywords 일치도 관련 연구

- 가정의학회지, 1992-1997년
- Author Keywords : 897종류
- MeSH 일치 : 161개 (17.9\%)
- 단, 복수 등 부분일치: 34 개(3.8\%)
- MeSH 불일치 : 702개(78.2\%)
- 결론
- MeSH와 부합하지 않음
- 주제어 자체가 논문의 내용을 정확히 반영하지 못하 는 경우가 있음

MeSH 용어와 Author Keywords 일치도 관련 연구

- 1993-2010년
- 대한작업치료학회지 논문 346편
- Author Keywords : 1,225개
- MeSH 일치 : 225개 (20.8\%)
- 단, 복수 등 부분일치: 377 개(30.8\%)
- MeSH 불일치 : 593개(48.4\%)

박수현, 박경영. 대한작업지료학회/지 논문의 영문 주제어와 MeSH 용 어의 비교분석. 대한작업지료학회지 2011. 19(4) 131-145

## Author Keywords 분석결과

- MeSH 용어에 대한 이해 부족
- 연구의 내용을 나타내는 Main Topics 이외의 용 어 사용
- Check tags : 연령, 성별, 연구재료 ex) child
- Publication Types : systematic reviews
- Study Design 관련 용어: cohort studies
- 지리표목 ex) Korea
- 약어사용 ex) STEM (Scanning Transmission Electron Microscopy)





## Author keywords list according to the frequency of appearance

〈Table 1〉 MeSH and non-MeSH keywords list from the Journal of Korean Academy of Nursing published from


## 제목, 초록, 저자키워드를 핵심단어로 작성 해야하는 이유

- 독자
- 전문(full text)을 읽기보다는 초록을 읽음
- 초록보다는 논문의 제목만 읽는 독자가 더 많음
- 서지데이터베이스
- 제목, 초록, 저자키워드를 대상으로 색인어 추출
- 검색어와 매칭되는 색인어를 검색결과로 추출
$=>$ 저자 혹은 편집위원회는 제목, 초록, 저자키워드를 핵심단어로 작성하고 있는가?




## 서지 DB 에서 논문이 검색되게 하려면 ?

- "DB에서 쉽게 검색될 수 있도록 핵심단어 를 사용해 제목, 초록, 저자키워드 작성"
- "MeSH, 관련분야 용어집을 참고하여 통 제된 어휘로 저자키워드를 작성"


# 검색에 유용한 Author Keywords 작성 

## Author Keywords

- 3 - 10 개의 주제어 작성
- 연구의 내용을 가장 잘 표현할 수 있는 단 어 선정
- 모두 제목에 나타나는 수준의 단어로 선정
- MeSH 사용 (학술지의 투고규정에 정함)



## NLM MeSH 활용

## Medical Subject Headings (MeSH)

- 미국 국립의학도서관 (National Library of Medicine, NLM) 구축
- 통제어휘집, 주제명 사전 혹은 시소러스
- MeSH의 주표목 23,000 여개
- 매년 갱신
- www.ncbi.nlm.nih.gov/mesh
- MeSH 추천:
https://www.nlm.nih.gov/mesh/meshsugg.ht ml


## MeSH, 2013

- There are 26,853 descriptors in 2013 MeSH. There are also over 213,000 entry terms that assist in finding the most appropriate MeSH Heading
- MeSH files are updated every week on Sunday (Supplementary Concepts)


## MeSH 유형

－Descriptors
－Main Headings
－Publication Types
－Geographicals
－Check Tags
－Subheading（＝Qualifiers）
－Supplementary Concepts

## MeSH Categories

1．$⿴$ Anatomy $[A]$
2．+ Organisms $[B]$
3．$\square$ Diseases $[\mathrm{C}]$
4．$⿴$ Chemicals and Drugs［D］
5．$\boxplus$ Analytical，Diagnostic and Therapeutic Techniques and Equipment［E］
6．$⿴$ Psychiatry and Psychology［ F$]$
7．$⿴ 囗 十$ Phenomena and Processes［G］
8．$\square$ Disciplines and Occupations［H］
9．$⿴$ Anthropology，Education，Sociology and Social Phenomena［I］
10．+ Technology，Industry，Agriculture［J］
11．$\ddagger$ Humanities $[\mathrm{K}]$
12．${ }^{\text {In }}$ Information Science［L］
13．$\rightarrow$ Named Groups［M］
14．$⿴$ Health Care［ N ］
15． $\mathbf{+}$ Publication Characteristics［V］
16．$\dagger$ Geographicals［ $Z$ ］

## MeSH Tree Structures

- Neoplasms [C04]
- Neoplasms by Site [C04.588]
- Abdominal Neoplasms [C04.588.033] +
- Anal Gland Neoplasms [C04.588.083]
- Bone Neoplasms [C04.588.149] +
- Breast Neoplasms [C04.588.180]
- Breast Neoplasms, Male [C04.588.180.260]
- Carcinoma, Ductal, Breast [C04.588.180.390]
- Hereditary Breast and Ovarian Cancer Syndrome [C04.588.180.483]
- Inflammatory Breast Neoplasms [C04.588.180.576]
- Digestive System Neoplasms [C04.588.274] +


## MeSH Browser

- The MeSH browser is an online vocabulary look-up aid available for use with $\mathrm{MeSH®}$. The browser does not link directly to any MEDLINE or other database retrieval system and thus is not a substitute for the PUBMED system
- (http://www.nlm.nih.gov/mesh/MBrowser. html)


| Main Heading |  | Return to Entry P <br> Go to Concept View; Go |
| :---: | :---: | :---: |
| $\begin{aligned} & \text { IeSH } \\ & \text { feading } \end{aligned}$ | Diabetes Mellitus, Type 2 开呂 |  |
| ree Number | $\frac{\mathrm{C} 18.452 .394 .750 .149}{\mathrm{C} 19.246 .300} \text { 게층번호 }$ |  |
| ree Number |  |  |
| cope Note | A subclass of DIABETES MELLITUS that is not INSULIN-responsive or dependent (NIDDM). It is characterized initially by INSULIN RE and eventually by GLUCOSE INTOLERANCE; HYPERGLYCEMIA; and overt diabetes. Type II diabetes mellitus is no longer considered a seldom develop KETOSIS but often exhibit OBESITY. |  |
| ntry Term | Diabetes Mellitus, Adult-Onset |  |
| ntry Term | Diabetes Mellitus, Ketosis-Resistant |  |
| ntry Term | Diabetes Mellitus, Maturity-Onset |  |
| ntry Term | Diabetes Mellitus, Non Insulin Dependent |  |
| ntry Term | Diabetes Mellitus, Non-Insulin-Dependent 기입어: 동의어, 유의어, |  |
| ntry Term |  |  |
| ntry Term | Diabetes Mellitus, Noninsulin-Dependent |  |
| ntry Term | Diabetes Mellitus, Slow-Onset |  |
| ntry Term | Diabetes Mellitus, Stable |  |
| ntry Term | Diabetes Mellitus, Type II |  |
| ntry Term | Maturity-Onset Diabetes |  |
| ntry Term | Maturity-Onset Diabetes Mellitus |  |
| ntry Term | MODY |  |
| ntry Term | NIDDM |  |
| ntry Term | Noninsulin-Dependent Diabetes Mellitus |  |
| ntry Term | Type 2 Diabetes Mellitos |  |
| ee Also | Metabolic Syndrome X 관련 어 | 엉 |
| ee Also |  |  |
| Howable | BL_CF CICL_ CNCO DH DIDT EC EH EM EN EPET GE HIIM MEMIMONUPA PC PP PS PXRARHRIRT SUTHUR US VE |  |

## MeSH Database

- Use the MeSH database to find MeSH terms, including Subheadings, Publication Types, Supplementary Concepts and Pharmacological Actions, and then build a PubMed search
- http://www.ncbi.nlm.nih.gov/mesh




## MeSH 확인후 PubMed 연계검색



## Related citations in PubMed



## MeSH Search in KoreaMed






## Title \& Author Keywords \& Abstracts

Title \& Author Keywords \& Abstracts

- 저자가 기술하는 단어, 어구, 문장의 종류, 단어의 출현위치 등에 의해 검색여부가 결정됨
- 제목에 채택되지 않은 중심개념은 저자키워드로 추가
- 저자키워드로 채택되지 않은 중심개념은 초록에 기술
- 연구재료의 성별, 종별, 연령, 동물명등은 초록의<연구 재료와 방법>에 함축적으로 요약


## Age Groups

- Newborn: birth-1 mo
- Infant: 1-23 mo
- Preschool Child: 2-5 yr
- Child: 6-12 yr
- Adolescent: 13-18 yr
- Young Adult: $19-24 \mathrm{yr}$
- Adult: 19-44 years
- Middle Aged: 45-64 yr
- Aged: 65+ yr
- 80 and over: 80+ yr

예) "10 patients ( 7 males and 3 females; 68 years and 48 to 78 years, respectively)"
-> 색인: Humans, Male, Female, Middle Aged, Aged
예) " $58-\mathrm{yr}$ old man", " $14-\mathrm{yr}$ old girl"과 같이 정형화된 어구 사용

## Animals

- 동물실험의 경우 연구대상이 되는

동물명을 정확하게 초록에 기술할 필요가 있음
Sprague-Dawley rats, Hamsters, Dogs

> 예) hepatic damage induced by carbon tetrachloride in Sprague-Dawley rats

## Geographicals

- 지리명 (Geographicals)

Korea, Seoul 등
예) The study subjects were 30 ~80years old, 513 women living in Seoul and Kyunggi area who participated in 2011 KNHANES

## Study Designs

- Randomized Controlled Trial
- Retrospective Studies
- Cohort Studies
- Case Control Studies
- Multicenter Study
- 예) Combined treatment with headgear and the Frog appliance for maxillary molar distalization: a randomized controlled trial

| Show additional filters | Display Settings: Summary, 20 per page, Sorted by Recently Added Send to: |
| :---: | :---: |
| Article types | (i) Showing results for rara. Your search for rarac retrieved no results. |
| Clinical Trial Review | Results: 1 to 20 of 872 |
| Systematic Reviews |  |
| More ... | $\square$ Identification of Maillard reaction products on peanut allergens that influence binding to the receptor <br> 1. for advanced glycation end products. |
| Text availability | Mueller GA, Maleki SJ, Johnson K, Hurlburt BK, Cheng H, Ruan S, Nesbit JB, Pomés A, Edwards LL, Schorzman A, Deterding LJ, Park H, Tomer KB, London RE, Williams JG. |
| Abstract available |  |
| Free full text available | Schorzman A, Deterding LJ, Park H, Tomer KB, London RE, Williams JG. <br> Allergy. 2013 Nov 23. doi: 10.1111/all. 12261. [Epub ahead of print] |
| Full text available | PMID: 24266677 [PubMed - as supplied by publisher] |
| Publication | Related citations |
| dates | $\square$ Analysis of Microsatellite Polymorphisms in South Indian Patients with Non Syndromic Cleft Lip and <br> 2. Palate. |
| 5 years |  |
| 10 years | Xavier D, Arif Y, Murali R, Kishore Kumar S, Vipin Kumar S, Tamang R, Thangaraj K, Bhaskar L. Balkan J Med Genet. 2013 Jun; 16(1):49-54. |
| Custom range... |  |
| Species | PMID: 24265584 [PubMed - as supplied by publisher] Free PMC Article |
| Humans | Related citations |
| Other Animals | $\square$ Synthetic phosphoethanolamine has in vitro and in vivo anti-leukemia effects. <br> 3. Ferreira AK, Santana-Lemos BA, Rego EM, Filho OM, Chierice GO, Maria DA. Br J Cancer. 2013 Nov 26;109(11):2819-28. doi: 10.1038/bjc.2013.510. Epub 2013 Nov 7. PMID: 24201752 [PubMed - in process] |
| Languages |  |
| English |  |
| More |  |
| Sex | Related citations |
| Female | $\square$ Validation and Implementation of Targeted Capture and Sequencing for the Detection of Actionable |
| Male | 4. Mutation. Copy Number Variation, and Gene Rearrangement in Clinical Cancer Specimens. |
| Subjects | Pritchard CC, Salipante SJ, Koehler K, Smith C, Scroggins S, Wood B, Wu D, Lee MK, Dintzis S, Adey A, Liu Y, Eaton KD, Martins R, Stricker K, Margolin KA, Hoffman N, Churpek JE, Tait JF, King MC, |
| AIDS |  |
| Cancer | Walsh T. |
| Systematic Reviews | J Mol Diagn. 2013 Nov 2. doi:pii: S1525-1578(13)00217-1. 10.1016/j.jmoldx.2013.08.004. [Epub ahead of print] |
| More ... | PMID: 24189654 [PubMed - as supplied by publisher] Related citations |
|  |  |
| Ages |  |
| Child: bith-18 years Infant: birth- 23 months | $\square$ Immunostaining for Rapid Diagnosis of Acute Promyelocytic Leukemia with the Tetramethylrhodamine <br> 5. -5-Isothiocyanate-Coniugated Anti-Promyelocytic Leukemia Monoclonal Antibody PG-M3 |



Substances 단어가 MeSH/Substances 필드에 색인된 사례


Substances 단어가 MeSH/Substances 필드에 색인된 사례

- Gene Expressio
- Granulocyte Precursor Cells

Granulocytes
Humans
Intercellular Adhesion Molecule-1
Leukemia, Promyelocytic, Acute
Nitroblue Tetrazolium
Phosphotransferases

- Pyrimidines
- src-Family Kinases

Substances: - - - - - -

- AG 1879
- Arsenic
- Arsenicals
- Intercellular Adhesion Molecule-1
- Nitroblue Tetrazolium
- Oxides
- Phosphotransferas
- Pyrimidines
- Pyrimidine
- arsenic trioxide
- src-Family Kinases

EAuthor Keywords:

- Acute promyelocytic leukemi

All-trans-retinoic acid

- Arsenic trioxide
- Src kinase

4143/ct.2013.45.2.12
KoreaMed
Trans-Retinoic Acid or Arsenic Trioxide-Induced Differentiation of an Acuts

Park HS, Won JH.
tute for Clinical Molecular Biology Research. Soonchunhang University Hospital. Soonchunhang
ere
unily kinases (SFKs) resulted in enhancement of reitinoic acid-ninduced myeloid differentiation.
unly kinases (SFK.s.) resulted din enhancement of retinoic acid-ndiced nyylodid differentiation.
on of whetier the SFK inhibitor PP2 enhanced the difiereniation of NB4 cells when combined with Idition, we artempted to determine the difference in retinoic acid-induced gene expression between cell 1. RESULTS: SFK intibitor PP2 induced significant enhancement of ATRA- or ATO-induced observed when PP2 was combined with ATRA than when combined with ATO. Flow cytometric ${ }^{2}$-fup to $60.73 \%$ and $31.58 \%$, respectively. These results were confrmed by ntaniroblue tetrazolium ddfferent in both groups. Intercellilar adhesion molecule-1 expression showed a significant increase in tpression showed a significant increase in cells treated with PP2 in combination with ATO. te promyeloctric leukemia cell differentiation when combined with either ATRA or ATO with difference


## 맺음말

- 저자
- 매력있는 제목
- 함축된 초록
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