# MeSH 색인

한림의대, 의편협 정보위원 김 수 영



### 발표 계획

- MeSH 개념과 구조(5분)
- MeSH 색인(10분)
- Koreamed와 MeSH 색인(5분)



# MeSH 개념



#### MeSH는?

- Medical Subjects Headings
- ■미국 국립의학도서관(National Library of medicine)
- Controlled Vocabulary, Thesurus
- 논문 색인어



## MeSH의 특징 1

- ■통제 어휘
  - 한 개념에 한 개 단어







B lymphocytes vs B cell

## MeSH 특징

■ 검색의 민감도와 특이도

- 민감도: 적절한 문헌을 찾을 가능성

- 특이도 : 부적절한 문헌을 배제할 가능성

■ 논문이 MeSH로 색인되어 있으면 검색 의 민감도와 특이도가 모두 올라감



## MeSH 특징 II

- Tree 구조로 되어 있다.
  - hierarchy
  - 15개 범주
  - broader(more general) or narrower(more specific)
  - 확장(exploding) 검색



# MeSH의 15개 범주

Geographical Locations

Anatomy Α. B. Organisms Diseases D. Chemicals and Drugs  $\mathbb{E}$ Analytical, Diagnostic and Therapeutic Techniques and Equipment F. Psychiatry and Psychology Biological Sciences H. Physical Sciences Anthropology, Education, Sociology and Social Phenomena Technology and Pood and Beverages K. Humanities. Information Science М. Persons N. Health Care

#### Tree structure

All MeSH Categories

Diseases Category

Cardiovascular Diseases

Vascular Diseases

#### Hypertension



Hypertension, Malignant

Hypertensive Encephalopathy
Hypertension, Portal
Esophageal and Gastric Varices
Hypertension, Pulmonary
Persistent Fetal Circulation Syndrome
Hypertension, Renal

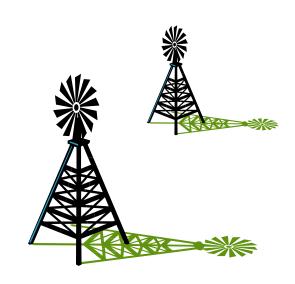
<u>Hypertension, Renovascular</u> <u>Nephrosclerosis</u>

# MeSH 구조



# MeSH 구조

- Major heading
- Entry terms
- Check tags
- Publication type
- Subheadings



# MeSH major heading

- MeSH 중 indexer들이 중요한 주제에 부 여
- ■특이도 높은 검색에 기여
- ■통상 2-5개 정도
- 형식: Neoplasm\*
  hypertension/\*drug therapy









□ 1:	Peptic Ulcer Ulcer that occurs in those portions of the alimentary tract which come into contact with gastric juice containing pepsin and acid. It occurs when the amount of acid and pepsin is sufficient to overcome the gastric mucosal barrier.
	Subheadings:    blood   chemical synthesis   chemically induced   classification   complications   congenital   diagnosis   diet therapy   drug therapy   economics   enzymology   epidemiology   ethnology   etiology   genetics   history   immunology   metabolism   microbiology   mortality   nursing   parasitology   pathology   pharmacology   physiopathology   prevention and control   psychology   radiography   radionuclide imaging   radiotherapy   rehabilitation   secretion   surgery   therapy   ultrasonography   urine   veterinary   virology
	□ Restrict Search to Major Topic headings only □ Do Not Explode this term (i.e., do not include MeSH terms found below this term in the MeSH tree).
	Entry Terms:  Peptic Ulcers  Ulcer, Peptic  Ulcers, Peptic  Gastroduodenal Ulcer  Gastroduodenal Ulcers  Ulcer, Gastroduodenal  Ulcers, Gastroduodenal  Marginal Ulcer  Marginal Ulcers  Ulcer, Marginal  Ulcers, Marginal

Full text article at circ.ahajournals.org

Change in diastolic left ventricular filling after one year of antihypertensive treatment: The Losartan Intervention For Endpoint Reduction in Hypertension (LIFE) Study.

Wachtell K, Bella JN, Rokkedal J, Palmieri V, Papademetriou V, Dahlof B, Aalto T, Gerdts E, Devereux RB.

MH - Aged

MH - Antihypertensive Agents/\*therapeutic use

MH - Atenolol/therapeutic use

MH - Blood Pressure/drug effects

MH - Diastole/drug effects

MH - Echocardiography

MH - Electrocardiography

MH - Female

MH - Follow-Up Studies

MH - Heart Atrium/drug effects

MH - Heart Ventricle/drug effects

MH - Human

MH - Hypertension/complications/\*drug therapy

MH - Hypertrophy, Left Ventricular/complications/diagnosis/\*drug therapy

MH - Losartan/\*therapeutic use

MH - Male

MH - Multivariate Analysis

MH - Remission Induction

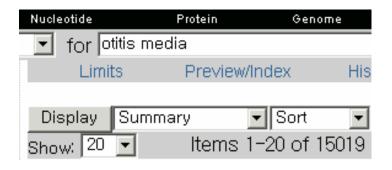
MH - Support, Non-U.S. Gov't

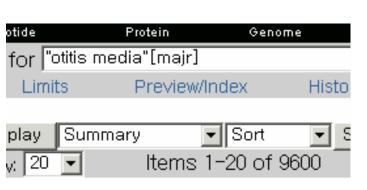
MH - Treatment Outcome

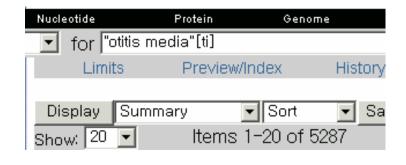
MH - Ventricular Function, Left/\*drug effects

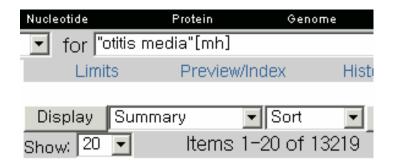
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MeSH term	palate'로 되어 있는 것	cleft palate[mh]	9785	
	만 검색			
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# Check Tags

- 특정 관심집단에게 정보 제공 위해 부여.
- MeSH term
- indexers가 부여
- 검색 시에는 limit option으로



# Check tag coding 용지

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G	☐ ADULT (19-44)	S	□ RABBITS	d	□ MEDIEVAL	m	□OTHER US GOVT SUP
Н	☐ MID AGE(45-64)	Τ	□ RATS	е	□ MODERN	n	□ NON-US GOVT SUP
I	☐ AGED(65 +)	U	□ ANIMAL		 		

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Wachtell K, Bella JN, Rokkedal J, Palmieri V, Papademetriou V, Dahlof B, Aalto T, Gerdts E, Devereux RB.

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MH - Remission Induction

MH - Support, Non-U.S. Gov't

MH - Treatment Outcome

MH - Ventricular Function, Left/\*drug effects

# Subheadings

- MeSH 여러 측면(치료, 역학 등)
- 색인, 검색에 이용(용법: MH/SH).
- 미국의학도서관의 공식명칭은 'qualifiers'
- tree 구조로 되어 있어 확장검색 가능.
- 허용 subheadings 제한 (Allowable Qualifiers).

#### 그림 Subheadings

Abnormalities AB

Administration and Dosage AD

Adverse Effects AE

Agonists AG

Analogs and Derivatives AA

Analysis AN

Anatomy and Histology AH

Antagonists and Inhibitors AI

Biosynthesis BI

Blood Supply BS

Blood BL

Cerebrospinal Fluid CF

Chemical Synthesis CS

Chemically Induced CI

Chemistry CH

Classification CL

Complications CO

Congenital CN

Contraindications CT

Cytology CY

Deficiency DF

Diagnosis DI

Legislation and Jurisprudence LJ

Manpower MA

Metabolism ME

Methods MT

Microbiology MI

Mortality MO

Nursing NU

Organization and Administration OG

Parasitology PS

Pathogenicity PY

Pathology PA

Pharmacokinetics PK

Pharmacology PD

Physiology PH

Physiopathology PP

Poisoning PO

Prevention and Control PC

Psychology PX

Radiation Effects RE

Radiography RA

Radionuclide Imaging RI

Radiotherapy RT

그림	Families of Subheading Explosi	ons
adverse effects	genetics	deficiency
poisoning	immunology	enzymology
toxicity	microbiology	pharmacokinetics
analysis	yirology	urine
blood	parasitology	physiopathology
cerebrospinal fluid	transmission	secretion
isolation and purification	metabolism	statistics and numerical data
urine	<u>biosynthesis</u>	epidemiology
anatomy and histology	blood	<u>ethnology</u>
blood supply	cerebrospinal fluid	mortality
cytology	deficiency	supply and distribution
pathology	enzymology	utilization
ultrastructure	pharmacokinetics	surgery
<u>embryology</u>	urine	transplantation
abnormalities	microbiology	therapeutic use
innervation	virology	administration and dosage
chemistry	organization and administration	adverse effects
agonists	economics	contraindications
analogs and derivatives	legislation and jurisprudence	poisoning
antagonists and inhibitors	manpower	therapy
chemical synthesis	standards	diet therapy
complications	supply and distribution	drug therapy
secondary	trends	nursing
cytology	utilization	prevention and control

# Publication type(PT)

- ■출판 형태
- 일부는 MeSH 색인, 일부는 check tag로
- Review, clinical trial, Meta-analysis, guideline
- 검색시 limit option에 이용됨.

 Addresses Bibliography · Classical Article Biography Clinical Conference Clinical Trial. · Clinical Trial, Phase I · Clinical Trial, Phase II · Clinical Trial, Phase IV · Clinical Trial, Phase III Congresses Controlled Clinical Trial · Randomized Controlled Trial Comment. · Consensus Development Conference · Consensus Development Conference, NIH Corrected and Republished Article Dictionary Directory Editorial Guideline. Interview · Lectures Letter Meta-Analysis

 News Overall.

Review

· Practice Guideline

· Review, Multicase

Review Literature

· Twin Study

· Retracted Publication

Scientific Integrity Review

- Duplicate Publication
- Festschrift
- Historical Article
- · Journal Article
- · Legal Cases
- · Meeting Abstract
- Multicenter Study
- Newsletter Article.
- · Periodical Index
- Published Erratum
- · Retraction of Publication
- · Review, Academic
- · Review of Reported Cases
- · Review, Tutorial
- · Technical Report

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# MeSH 색인



### MeSH 색인

- MeSH 색인이란
  - MeSH 용어를 이용해서 논문의 내용을 주 어진 coordination과 깊이에 따라서 완전하 고 정확하게 표현하는 것
- 시행자: NLM indexer
- 색인 개수: 5-6 vs 10-25



# 무엇을 색인하나?



- 1. Organs, tissues, cells
- 2. Diseases
- 3. Drugs, chemicals, endogenous and other substances
- 4. Living organism : microorganisms, higher animals, plants
- 5. Procedures: diagnostic, therapeutic, surgical, anesthetic, analytic

#### 무엇을 색인하나?

- 1. Physiological processs
- 2. -OLOGIES, -IATRIES, other specialities, fields, or disciplines
- 3. Health care and delivery of health care
- Miscellaneous medical, and paramedical concepts
- 5. Geography

## 색인할 수 없는 것

- 1. MeSH 주제어로 표현할 수 없는 개념
- 2. 양이나 질의 정도.
- 3. time relationships
- 4. primary or secondary
- 5. major or minor
- 6. severe or light
- 7. above or below, right or left,
- 8. surgical approach
- 9. amount of therapy



Eradication Rate of *Helicobacter pylori* according to the Diseases and Therapeutic Regimens, and Reinfection Rate after Successful Eradication in a Tertiary Clinic

Woo Chul Chung, M.D., Young Seok Cho, M.D., Joeng Jo Jeong, M.D., In Seok Lee, M.D., Sang Woo Kim, M.D., Jin Mo Yang, M.D., Myung Gyu Choi, M.D., In Sik Chung, M.D., and Doo Ho Park, M.D.

Department of Internal Medicine, the Catholic University College of Medicine, Seoul, Korea

Background/Aims: Controversies regarding the indications and regimens for the eradication of Helicobacter pylori (H. pylori) still exist. Failure rates have been reported to range from 5% to 10%. This study aimed to evaluate the efforts for the eradication of H. pylori of a tertiary clinic. We assessed the eradication rates according to the diseases, therapeutic regimens, and duration of therapy. In addition, we examined the effectiveness of secondary regimens in patients who failed to respond to primary regimens and the reinfection rate after a successful eradication. Methods: We investigated 389 patients with documented H. pylori infection between January 1996 and December 2001. Results: The overall eradication rate was 79.2%. There were no significant differences in the eradication rates according to the diseases and therapeutic regimens. However, there was a significant difference according to the duration of therapy. Proton pump inhibitor-based 10-day and 14-day regimens were superior to 7-day regimens. The eradication rate of secondary regimens in patients who failed to respond to primary regimens was 76.9%. The reinfection rate after a successful eradication was 4.4%. Conclusions: These results suggest that proton pump inhibitor-based triple regimens with 10 or 14 days of duration should be considered as primary H. pylori eradication therapy. (Korean J Gastroenterol 2003;41:1-8)

Key Words: Helicobacter pylori; Eradication rate; Reinfection rate

#### 평가1

- ■용어 자체
  - Helicobactor pylori(O)
  - Eradication(X)
  - ->Remission Induction
  - Reinfection(X)
  - ->Recurrence(relapse)



### MeSH 용어 갱신



- 현재 용어 개수 : 21,973개
- 부가 용어(주로 화학물질 이름): 132,123개
- Entry term: 23,512개
- ■갱신
  - 색인전문가 정보제공, 학술잡지에 새로 등장하는용어나 분야에 대해서 정의, 관계 설정
  - 색인책임자, 검색자 등이 해마다 회의를 열어 결정

#### Coordination

- 두 개 이상의 MeSH를 조합
- 대부분 coordination을 이용해서 색인
- 주요 coordination
  - Main Heading + Main heading
  - 2. Main Heading + Check tag
  - 3. Main Heading + subheading

# Pre-Coordinated Headings

■둘 이상 MeSH term이 합쳐서 한 MeSH

originally

b.Main heading +check tag

heading Main subheading

a. two main headings | \*Liver glycogen = \*liver + \*glycogen

> \*Schizophrenia, child Schizophrenia, child communicable disease control= communicable disease / prev

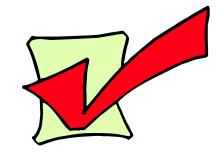
## 가장 흔한 Pre-Coordinated Headings

- An organ + disease(Stomach diseases)
- An organ + neoplasm(Stomach Neoplasm)
- An organ + infection(Staphylococcal infections)
- A disease + animal(Dog Disease)
- A disease + site(Hypertension, portal )

## Subheading Coordination

```
(Disease A)
                                      (Disease A) / complications
             / etiology
(Disease B) / complications
                                      (Disease B) / complications
(Disease )
            / drug therapy
                                      (Disease )
                                                   / chemically induced
                                      (Drug)
(Drug)
            / therapeutic use
                                             / adverse effect
(Disease)
           / pathology
                                      (Disease)
                                                  / etiology
                                      (Technique) / adverse effect
(Organ)
           / pathology
          / microbiology
                                      (Enzyme)
(Disease)
                                                 / metabolism
(Organ)
          / microbiology
                                      (Organ)
                                                / enzymology
(Organism) /isolation
                                      (Disease) / enzymology
(Organ )
          / drug effects
                                      (Organism)
                                                   / drug effects
          / pharmacology
                                      (Drug)
(Drug)
                                                 / pharmacology
          / metabolism.
                                                   / metabolism.
(Organ )
                                      (Organism)
(Drug)
          / metabolism
                                      (Drug)
                                                 / metabolism
(Organ)
          / chemistry
                                      (Disease)
                                                / diagnosis
(Drug)
          / analysis
                                      (Drug)
                                                / diagnostic use
                                      (Organ)
                                               / radiation effects
(Organ )
          / metabolism
(Drug)
          / pharmacokinetics
                                      specific radiation
(Disease) / metabolism
                                      (Disease) / metabolism
(Organ ) / metabolism
                                      (Organ ) / chemistry
(Drug)
          / metabolism
                                      (Drug)
                                                / analysis
```

## 색인 원칙



- 1. Subheadings으로 색인하지 않음
  - 예: glucose-metabolism에 대한 논문
- 2. 가능하면 specific
  - Spectinomycin vs antibiotics
- 3. 기관별질환: organ-disease
  - Cecum의 질환
- 4. 미생물 감염질환: organism-infection
  - ESCHERICHIAL COLI INFECTION

## 색인 원칙 2



- 5. 실험 방법으로 색인하지 않음
  - gama globulin의 electrophoresis
- 6. 일반적인 병리현상: organ-pathology로
  - 췌장의 necrosis : PANCREAS-pathology
- 7. 나이는 check tag로
  - Infant gout
- 8. 실험동물은 check tag로
  - rat에서 유발한 arthritis

## 질병 색인 형태

- precoordinated organ-disease
  - 예 : Brain diseases, skin diseases
- 감염은 organism-diseases term
  - 예: salmonella infections
  - 대부분 organ-disease과 동반색인
  - salmonella infection, liver diseases.
- precoordinated organ-organism-disease term
  - 예 : Tuberculosis, Renal)
- specific organ + precoordinated organdisease term
  - 예 : ciliary body disease : ciliary body, Uveal diseases



## organ-disease가 MeSH에 없으면

■ Pre-coordinated term까지 tree 거슬러 올라감

```
All MeSH Categories
Anatomy Category

Nervous System
Central Nervous System

Brain
Prosencephalon
Telencephalon
Cerebral Cortex
Temporal Lobe
Auditory Cortex
Parahippocampal Gyrus
Entorhinal Cortex
```

- 예: drug therapy of temporal lobe disease
- : temporal lobe;brain diseases/ drug ther

# pre-cordinated organism infection이없으면



■ pre-cordinated organism-infection까지

All MeSH Categories
Organisms Category
Bacteria

Gram-Negative Bacteria

Gram-Negative Facultatively Anaerobic Rods
Enterobacteriaceae

Citrobacter

<u>Citrobacter freundii</u> <u>Citrobacter koseri</u>

- 예: Drug therapy of Citrobacter Cellulitis
  - Citrobacter,

Enterobacteriaceae infections/ drug ther,

Cellulitis/drug ther

## Neoplasm, 약제 색인



### Neoplasm

- 조직형과 위치를 색인
- Basal cell carcinoma of the skin
- carcinoma, basal cell; skin neoplasm으로 색인

#### 약제

- 해당질병, pharmacologic activity
- Lithium in manic disorders
- lithium carbonate / ther use; Manic disorder / drug ther; antimaniac agents / ther use

# Koreamed에서 MeSH



## KoreaMed에 MeSH 필요?

- ■데이터 현재 약 5만 건
- 많은 시간과 노력
- ■수 많은 비용
- 5년 후 20만건
- Sensitive and specific search



## 저자 키워드와 MeSH

- 대부분 투고규정: 저자 키워드로 MeSH 권유
- Keyword를 MeSH로 부여하게 하는 차 선책
- 하지만 성격이 다르다
  - -통제어
  - 최신 용어 잘 반영하지 못함
  - 관습적인 용어 사용 못함



#### The Clinical Significance of Mosaic-Like Pattern in Patients with Liver Cirrhosis

Jin Bong Kim, M.D., Dong Joon Kim, M.D., Soon Ok Oh, M.D., Sang Ho Moon, M.D., Sung Jung Kim, M.D., Gwang Ho Baik, M.D., Woong Ki Chang, M.D., Jin Lee, M.D., Myeng Seok Lee, M.D., Hak Yang Kim, M.D., Choong Kee Park, M.D., and Jae Young Yoo, M.D.

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Background/Aims: Mosaic-like pattern (MLP), one of the elementary lesions of portal hypertensive gastropathy, is common in patients with liver cirrhosis. The aim of this study was to examine the association between the severity/location of MLP and severity of the liver disease. Methods: We carried out 177 endoscopic examinations in 139 cirrhotic patients and examined the severity of MLP on the basis of the New Italian Endoscopy Club classification. Additionally, we classified the MLP according to its location. Then, the association between severity/location of MLP and Child-Pugh classification was investigated. Results: Child class A, B, and C were observed in 82, 57, and 38 cases, respectively. Severity grades of MLP of none, mild, moderate, and severe were observed in 4.5%, 70.1%, 21.5%, 4.5% of the 177 examinations, respectively. The location of MLP in the high body, mid-body, low body, and antrum was confirmed in 3.6%, 38.1%, 36.9%, and 16.7% of the cases, respectively. MLP was not observed in 4.8% of the cases. The severity and location of MLP revealed statistically significant correlation with the Child-Pugh classification (p=0.001/0.000, respectively). Moreover, the severity and location of MLP were also correlated each other (p=0.000). Conclusions: Not only the severity but also the location of MLP tends to extend toward the antrum from the high body. (Korean J Gastroenterol 2003;41:33-40)

Key Words: Portal hypertensive gastropathy; Mosaic-like pattern; Liver cirrhosis

## 용어

- Portal hypertensive gastropathy
  - → Esophageal and Gastric Varices?
  - →Stomach disease?
- Mosaic-like pattern
- Liver cirrhosis(O)
- Prognosis OR risk(+)

Gastroenterology

Natural history of portal hypertensive gastropathy in patients with liver cirrhosis. The New Italian Endoscopic Club for the study and treatment of esophageal varice (NIEC).

#### MeSH Terms:

- Acute Disease
- Adult.
- Aged
- Chronic Disease
- Endoscopy
- Esophageal and Gastric Varices/complications
- Female
- Gastrointestinal Hemorrhage/etiology
- Gastrointestinal Hemorrhage/mortality
- Human
- Hypertension, Portal/complications+
- Hypertension, Portal/epidemiology
- Hypertension, Portal/mortality
- Hypertension, Portal/physiopathology
- Liver Cirrhosis/complications\*
- Liver Cirrhosis/pathology
- Liver Diseases/mortality
- Male
- · Middle Age
- Prevalence
- Stomach Diseases/etiology\*