





### Valérie DURIEUX, PhD

Département des bibliothèques et de l'information scientifique valerie.durieux@ulb.be

# ÉTAPES D'UNE RECHERCHE

Émergence d'un besoin d'information



1ère étape : analyse du besoin

2<sup>ème</sup> étape : sélection d'une source

3ème étape : formulation d'une équation de recherche



Évaluation de l'information trouvée

# PRINCIPALES SOURCES

### Articles > revues

British Medical Journal – BMJ Journal of American Medical Association – JAMA New England Journal of Medicine

# Dépouillement et regroupement de revues

- 1. Bases de données bibliographiques
- 2. Bases de données bibliométriques
- 3. Bases de données factuelles
- 4. Portail d'éditeurs

- 1. PubMed/Medline, Embase
- 2. Scopus, Web of Science
- 3. Cochrane Library
- 4. Science Direct

# Bases de données bibliographiques

- Medline via PubMed (https://pubmed.ncbi.nlm.nih.gov/)
  - PubMed est une interface gratuite donnant accès à la bdd Medline
  - Medline recense les références bibliographiques et les résumes
     d'articles de plus de 5.200 périodiques en sciences biomédicales
  - Indexation des références au moyen des MeSH (Medical Subject Headings)



Search PubMed

Search

Advanced

PubMed® comprises more than 30 million citations for biomedical literature from MEDLINE, life science journals, and online books. Citations may include links to full-text content from PubMed Central and publisher web sites.

# ux JDA 10/22

# NOTICE DANS PUBMED/MEDLINE

Review

> BMJ Open, 7 (2), e013661 2017 Feb 6

# Systematic Review and Meta-Analysis: Tai Chi for Preventing Falls in Older Adults

Zhi-Guan Huang, Yun-Hui Feng ... Chang-Sheng Lv + expand

PMID: 28167744 PMCID: PMC5293999 DOI: 10.1136/bmjopen-2016-013661

### Abstract

**Objective:** It remains unclear whether Tai Chi is effective for preventing falls in older adults. We undertook this systematic review to evaluate the preventive effect of Tai Chi by updating the latest trial evidence.

Design: Systematic review and meta-analysis.

**Methods:** The Cochrane Library, MEDLINE and EMBASE were searched up to February 2016 to identify randomised trials evaluating Tai Chi for preventing falls in older adults. We evaluated the risk of bias of included trials using the Cochrane Collaboration's tool. Results were combined using random effects meta-analysis.

Outcome measures: Number of fallers and rate of falls.

Results: 18 trials with 3824 participants were included. The Tai Chi group was associated with significantly lower chance of falling at least once (risk ratio (RR) 0.80, 95% CI 0.72 to 0.88) and rate of falls (incidence rate ratio (IRR) 0.69, 95% CI 0.60 to 0.80) than the control group. Subgroup analyses suggested that the preventive effect was likely to increase with exercise frequency (number of fallers: p=0.001; rate of falls: p=0.007) and Yang style Tai Chi was likely to be more effective than Sun style Tai Chi (number of fallers: p=0.01; rate of falls: p=0.001). The results might be influenced by publication bias as the funnel plots showed asymmetry. Sensitivity analyses by sample size, risk of bias and comorbidity showed no major influence on the primary results.

**Conclusions:** Tai Chi is effective for preventing falls in older adults. The preventive effect is likely to increase with exercise frequency and Yang style Tai Chi seems to be more effective than Sun style Tai Chi.

Keywords: Falls; Meta-analysis; Older adults; Systematic review; Tai Chi.

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# FORMULER UNE ÉQUATION DE RECHERCHE

- 1. Identifier les concepts
- 2. Formuler les concepts
- 3. Combiner les concepts

Si les résultats obtenus ne sont pas satisfaisants :

4. Reformuler son équation (ex.: élargir ou rétrécir)

# 1. Identifier les concepts

Exemple:

La prévention des chutes chez les personnes âgées

1er concept = prévention → sujet

2<sup>ème</sup> concept = chutes → sujet

3<sup>ème</sup> concept = personnes âgées → sujet

# 1. Identifier les concepts

Exemple:

Ce qu'a écrit Sandra de Breucker sur la démence

1<sup>er</sup> concept = S de Breucker → auteur 2<sup>ème</sup> concept = démence → sujet

# 1. Identifier les concepts

## Exemple:

Ce qui a été publié dans *Stroke* ces 10 dernières années concernant la prévention des AVC

1er concept = Stroke → titre de périodique

2<sup>ème</sup> concept = 2012 à 2022 inclus → date de publication

3<sup>ème</sup> concept = prévention → sujet

4ème concept = AVC → sujet

# 2. FORMULER LES CONCEPTS

- En langage scientifique courant  $\rightarrow$  mots clés
  - Tous les outils (Google, Google Scholar, Scopus,
     PubMed/Medline, LiSSa,...)

- En langage contrôlé → descripteurs
  - PubMed/Medline (thésaurus MeSH)
  - CISMeF (thésaurus MeSH + traduction française)
  - Embase (thésaurus Emtree)

# INDEXATION AUTOMATIQUE

### $\square \mapsto \updownarrow \square \updownarrow \circ \circ \square$

OO O\_0ℓℓ0...\_\_D\_\_OOO<u>:→\_D</u>



# RECHERCHE PAR MOTS-CLÉS

- Obligation pour l'utilisateur de :
  - Envisager tous les synonymes (ex.: dénutrition/malnutrition)
  - Envisager toutes les formes grammaticales
    - Singulier / pluriel
    - Masculin / féminin
    - Acronyme / nom complet (ex.: AVC/accident vasculaire cérébral)
  - Soigner l'orthographe

# ATTENTION À L'ORTHOGRAPHE

Pub Med.gov	"aggresive behavior"[title/abstract]   Advanced Create alert			
	Save Email Sort by Best match Most recent			
MYNCBI FILTERS 🛂	9 results			
All (9) Free Full Text (0) Review (1) RESULTS BY YEAR	LEPTIN PROMOTES A MORE <b>AGGRESIVE BEHAVIOR</b> OF OVARIAN CANCER  CELLS: A POTENTIAL EXPLANATION FOR A WORSE PROGNOSIS IN OBESE OVARIAN CANCER PATIENTS: IGCS-0095 Ovarian Cancer.  Cuello-Fredes M, et al. Int J Gynecol Cancer 2015. PMID 25955943			
ν <sup>2</sup>	66 Cite			

Pub Med.gov	"aggressive behavior"[title/abstract]  Advanced Create alert			×	Search	
	Save Email	Sort by	Best match	Mos	t recent	*
MYNCBI FILTERS [2]	10,343 results					

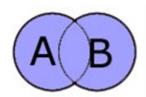
# RECHERCHE PAR MOTS-CLÉS

- Troncature (généralement signifiée par \*)
  - Signe qui remplace un ou plusieurs caractères d'un mot lors de l'interrogation
  - Ex.: cancer\* ramène cancers, cancéreux, cancéreuses, etc.
  - Impossible dans Google!
- Masque (généralement signifié par # ou ?)
  - Signe qui remplace un seul caractère d'un mot
- Guillemets (" ")
  - Utilisés pour la recherche d'expression exacte
  - Ex.: "accident vasculaire cérébral", "personnes âgées"

!! Chaque outil a sa propre syntaxe de recherche !!

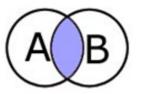
À l'aide des opérateurs booléens

Union



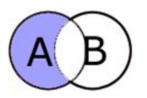
OR

Intersection



**AND** 

Exclusion



NOT



Quand 2 opérateurs différentes 

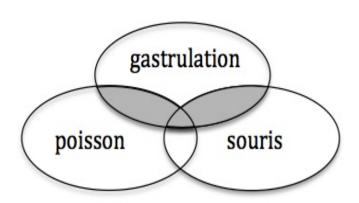
importance des parenthèses

Ex.: « La gastrulation chez la souris et le poisson »

2 équations possibles :

gastrulation AND (souris OR poisson\*)

(gastrulation AND souris) OR (gastrulation AND poisson\*)

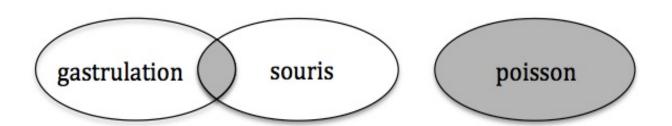


!! Le « et » ne se traduit pas forcément par AND !!

Quand 2 opérateurs différentes  $\rightarrow$  importance des parenthèses

Ex.: « La gastrulation chez la souris et le poisson »

gastrulation AND souris OR poisson



Utilisation des parenthèses → pour gérer la synonymie

Utilisation des guillemets → recherche d'expression exacte

La prévention des chutes chez les personnes âgées

= prophylaxie seniors

# Équation:

(preventi\* OR prophyla\*) AND chute\* AND ("personne âgée" OR "personnes âgées" OR senior\*)

!! Pas de troncature à l'intérieur des guillemets!!

# 4. REFORMULER SON ÉQUATION

- Trop de résultats non pertinents = bruit documentaire
  - Ajouter des concepts combinés à l'aide du AND
  - Appliquer une ou plusieurs limites
- Trop peu de résultats = silence documentaire
  - Supprimer les concepts trop discriminants
  - Ajouter des concepts (synonymes) combinés à l'aide du OR

!! Il n'existe pas une équation unique et parfaite pour chaque question de recherche ; l'important est d'atteindre un juste équilibre entre bruit et silence !!

70/0

# EXHAUSTIVITÉ VS PRÉCISION

• Recherche exhaustive = trouver tout ce qui a été publié sur le sujet

• Recherche précise = tous les articles trouvés répondent à la question

• Recherche exhaustive ET précise = compromis

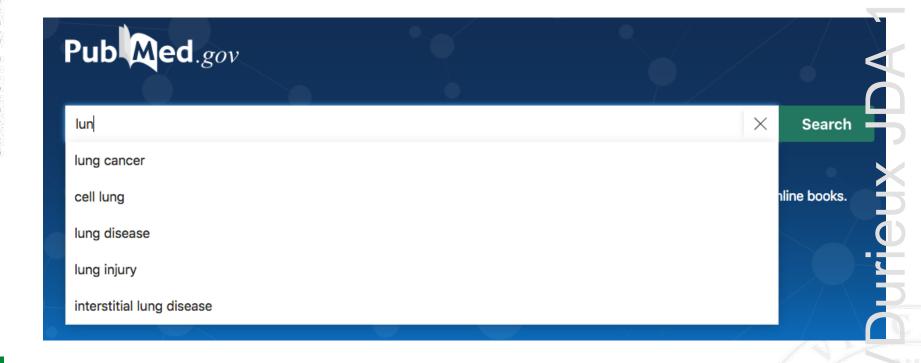
# EXHAUSTIVITÉ VS PRÉCISION: EXEMPLES

Recherche rapide au lit du patient	Revue systématique de littérature			
= recherche précise	= recherche exhaustive			
Grande tolérance au silence documentaire	Grande tolérance au bruit documentaire			
Utilisation du vocabulaire contrôlé <u>OU</u> d'un nombre restreint de synonymes	Utilisation du vocabulaire contrôlé <u>ET</u> d'un maximum de synonymes			
Utilisation de concepts discriminants	Abandon des concepts discriminants			
Consultation d'un nombre limité d'articles	Consultation illimitée d'articles ET recherche complémentaire dans les bibliographies			

# Publ@ed



# RECHERCHE SIMPLE



https://pubmed.ncbi.nlm.nih.gov/

# RECHERCHE AVANCÉE





Search by fields

https://pubmed.ncbi.nlm.nih.gov/advanced/

# RECHERCHE AVANCÉE

### Affiliation All Fields

Author

Author - Corporate

Author - First

Author - Full

Author - Identifier

Author - Last

Book

Pu

Date - Completion

Date - Create

Date - Entrez

Date - MeSH

Date - Modification

Date - Publication

EC/RN Number

Editor

Filter

Grant Number

ISBN

Investigator

Investigator - Full

Issue

### Journal

Language

Location ID

MeSH Major Topic

MeSH Subheading

MeSH Terms

Other Term

Pagination

Pharmacological / ction

Publication Type

Publisher

, ↓, Downlo

Secondary Source 10

Supplementary Concept

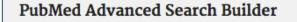
Text Word

Title

Title/Abstract

Transliterated Title

Volume



Add terms to the query box

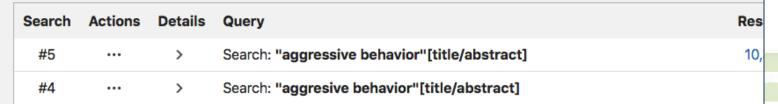
All Fields

Enter a search term

### Query box

Enter / edit your search query here

### **History and Search Details**



# ULB

# RECHERCHE DANS TITLE/ABSTRACT OU TEXT WORD

Hum Pathol. 2018 Nov 17. pii: S0046-8177(18)30440-4. doi: 10.1016/j.humpath.2018.11.007. [Epub ahead of print]

### Loss of DUSP2 predicts a poor prognosis in patients with bladder cancer.

Yin H<sup>1</sup>, He W<sup>2</sup>, Li Y<sup>3</sup>, Xu N<sup>4</sup>, Zhu X<sup>2</sup>, Lin Y<sup>5</sup>, Gou X<sup>6</sup>.

### Author information

- Department of Urology, the First Affiliated Hospital of Chongqing Medical University, Chongqing 400016, China; Chongqing Key Laboratory of Molecular Oncology and Epigenetics, The First Affiliated Hospital of Chongqing Medical University, Chongqing 400016, China.
- 2 Department of Urology, the First Affiliated Hospital of Chongqing Medical University, Chongqing 400016, China.
- 3 Chongqing Key Laboratory of Molecular Oncology and Epigenetics, The First Affiliated Hospital of Chongqing Medical University, Chongqing 400016, China.
- 4 Departments of Urology, First Affiliated Hospital of Fujian Medical University, Fuzhou, PR China.
- Molecular Biology and Lung Cancer Program, Lovelace Respiratory Research Institute, Albuquerque, NM 87108, USA.
- 6 Department of Urology, the First Affiliated Hospital of Chongqing Medical University, Chongqing 400016, China. Electronic address: gouxincq@163.com.

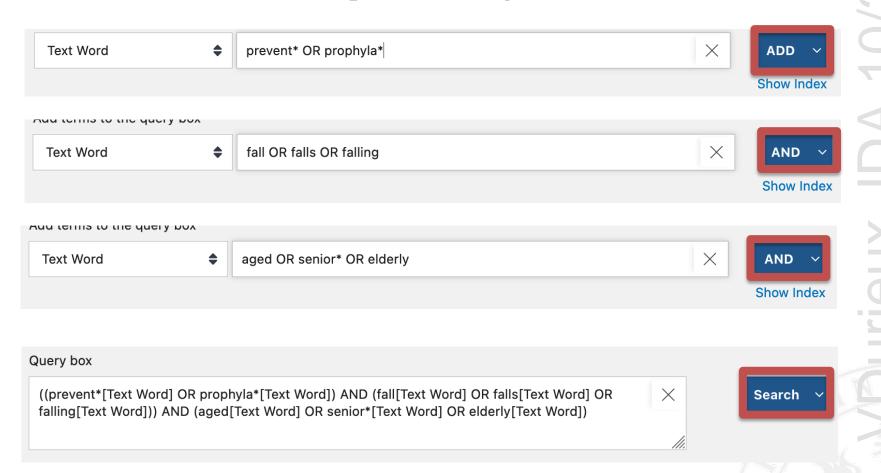
### Abstract

Dual-specificity phosphatase 2 (DUSP2), a member of nuclear type I DUSP family, abolishes the activation of mitogen-activated protein kinases (MAPKs) and plays critical roles in the immune processes, inflammatory responses and cancer progression. Currently, whether DUSP2 is involved in pathogenesis of bladder cancer remains unclear. In this study, we demonstrate that the expression level of DUSP2 was predominantly down-regulated in bladder cancer tissues and cell lines as compared with that of paired normal tissues and benign urothelial cells. Besides, the expression of DUSP2 was significantly associated with pathological grade (P=.009), AJCC stage (P=.017) and subtype (P=.001) in the Cancer Genome Atlas (TCGA) cohort and mainly related to TNM stage (P=.016) in the tissue-microarray (TMA) cohort. Kaplan-Meier analysis suggested that patients with low DUSP2 expression had a shorter 5-years overall survival (P=.018 in TCGA; P=.012 in TMA) and lower recurrence-free survival (P=.008). Cox regression analysis indicated that reduced DUSP2 was an independent high risk factor for survival prognosis in both cohorts. Taken together, our findings for the first time suggested that DUSP2 as a progression and prognosis biomarker for bladder cancer. Whether DUSP2 functions as a tumor suppressor in bladder cancer deserves further studies.

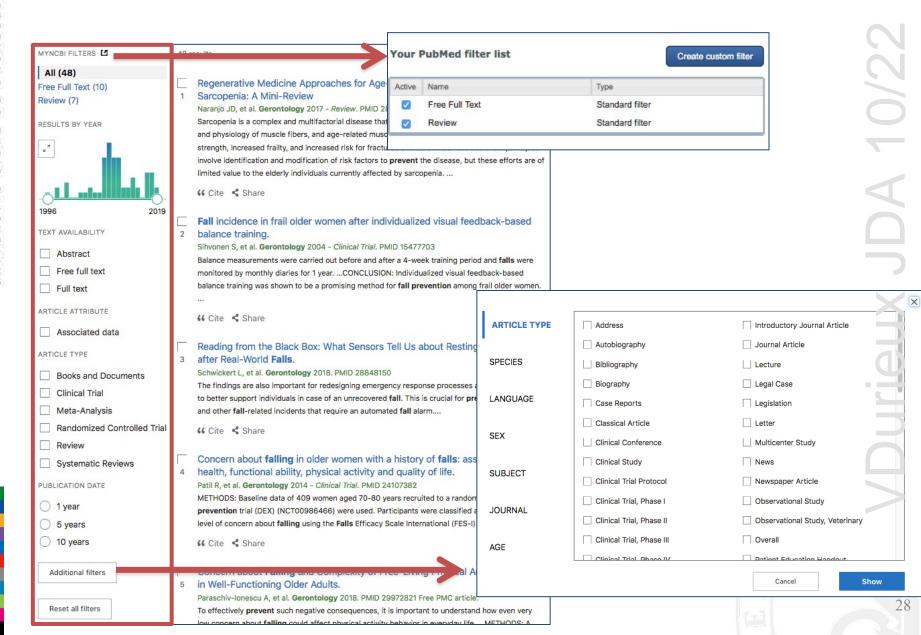
Une recherche sur "Lung cancer"[tiab] ou sur "Lung cancer"[tw] n'aurait pas ramené cet article!

# **EXEMPLE**

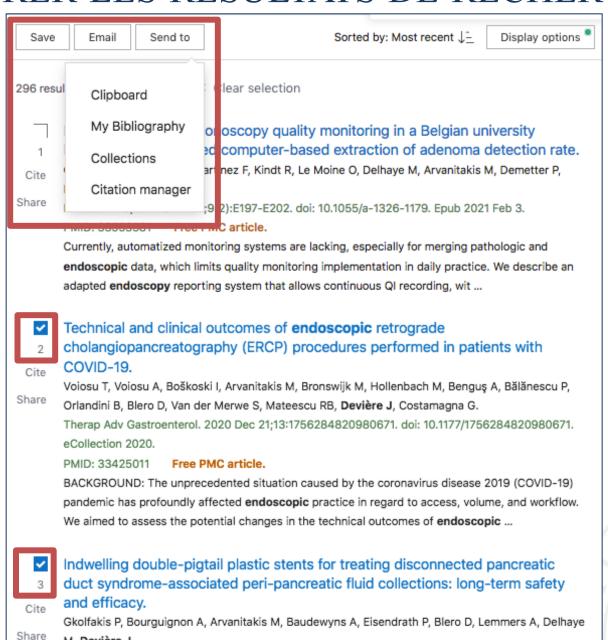
Vous cherchez des articles sur la prévention des chutes chez les personnes âgées



# LIMITES



# GÉRER LES RÉSULTATS DE RECHERCHE



M, Devière J.

PLACER UNE ALERTE Pub Med.gov Fitle/Abstract]) AND (prevent\*[Title/Abstract] OR Advanced Create alert

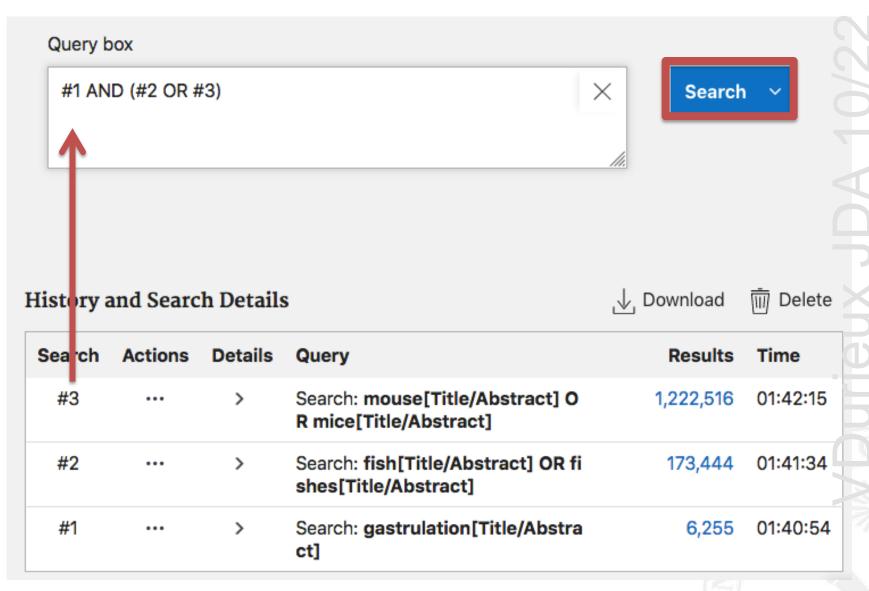
Your saved search Name of saved (prevent\*[Title/Abstract] OR p search: Search terms: (prevent\*[Title/Abstract] OR prophyla\* Test search terms Would you like email updates of new search results? Yes No vdurieux@ulb.ac.be (change) Email: Frequency: Monthly Which day? The first Sunday \$ Report format: Summary 5 items Send at most: Send even when there aren't any new results Optional text in email:

Save

30

Cancel

# COMBINER LES RECHERCHES AVEC L'HISTORIQUE



# RECHERCHE À L'AIDE DU THÉSAURUS MESH

# RAPPEL: FORMULER LES CONCEPTS

- En langage scientifique courant **→** mots clés
  - Tous les outils (Google, Google Scholar, Scopus,
     PubMed/Medline, Cible+...)

- En langage contrôlé **descripteurs** 
  - PubMed/Medline, Cochrane Library (thésaurus MeSH)
  - CISMeF (thésaurus MeSH + traduction française)
  - Embase (thésaurus Emtree)

# LANGAGE CONTRÔLÉ

- Liste de descripteurs (unitermes ou multi termes) établie à l'avance et utilisée pour décrire chacun des sujets, notions ou concepts traités dans les documents référencés
  - reprend également les termes non-descripteurs
     (ex. : malnourishment → malnutrition)
- Thésaurus (= listes hiérarchisées)
  - Ex.: MeSH (Medical Subject Headings)

# Langage courant VS contrôlé

### **Document 1**

..malnourishment...

MeSH: Malnutrition

### **Document 2**

..... malnutrition......

MeSH: Malnutrition

### **Document 4**

.... malnutrition ...

MeSH:

### **Document 3**

.... malnourished...

MeSH: Malnutrition

### **Document 5**

.. malnourishment ...

MeSH:

# Langage courant VS contrôlé

Requête: malnourishment

### **Document 1**

..malnourishment...

MeSH: Malnutrition

### **Document 2**

.... malnutrition.....

MeSH: Malnutrition

### **Document 4**

.... malnutrition ...

MeSH:

### **Document 3**

.... malnourished...

MeSH: Malnutrition

### **Document 5**

.. malnourishment ...

MeSH:

# Langage courant VS contrôlé

Requête: malnourish\*

**Document 1** 

..malnourishment...

MeSH: Malnutrition

**Document 2** 

..... malnutrition......

MeSH: Malnutrition

**Document 4** 

.... malnutrition ...

MeSH:

**Document 3** 

.... malnourished...

MeSH: Malnutrition

**Document 5** 

.. malnourishment ...

MeSH:

# Langage courant VS contrôlé

Requête: malnourish\* OR malnutrit\*

**Document 1** 

..malnourishment...

MeSH: Malnutrition

**Document 2** 

..... malnutrition......

MeSH: Malnutrition

**Document 4** 

.... malnutrition ...

MeSH:

**Document 3** 

.... malnourished...

MeSH: Malnutrition

**Document 5** 

.. malnourishment ...

MeSH:

# Langage courant VS contrôlé

Requête: "Malnutrition"[Mesh]

**Document 1** 

..malnourishment...

MeSH: Malnutrition

**Document 2** 

.... malnutrition.....

MeSH: Malnutrition

**Document 4** 

.... malnutrition ...

MeSH:

**Document 3** 

.... malnourished...

MeSH: Malnutrition

**Document 5** 

.. malnourishment ...

MeSH:

### RECHERCHE EN MESH: FORCES - FAIBLESSES

#### **Forces**

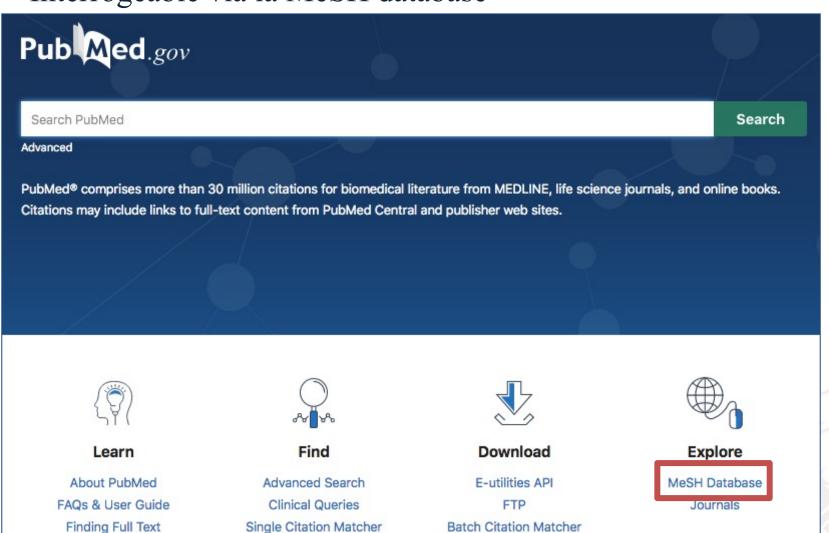
- permet de trouver des articles dont le titre et l'abstract ne sont pas représentatifs du sujet
- permet de trouver des articles sans abstract
- diminue le bruit documentaire

#### **Faiblesses**

- de nombreux articles ne disposent pas (encore) de MeSH
- des articles sont "mal" indexés
- il n'existe pas de MeSH pour tous les concepts
- augmente le silence documentaire

# Thésaurus MeSH

#### Interrogeable via la MeSH database



## MESH DATABASE

- But : aider les utilisateurs de PubMed à identifier les **termes appropriés** pour leurs recherches dans MEDLINE
- Fournit des informations concernant les termes MeSH, y compris :
  - Définitions
  - Synonymes des concepts
  - Termes associés
  - La position du terme dans la hiérarchie

#### NOTICE DE DESCRIPTEURS

#### **Accidental Falls**

Falls due to slipping or tripping which may result in injury.

Year introduced: 1991(1987)

PubMed search builder options

Subheadings:

- economics
- epidemiology
- history

- mortality
- organization and administration
- prevention and control

- statistics and numerical data
- therapy
- trends

Restrict to MeSH Major Topic.

 $\ \square$  Do not include MeSH terms found below this term in the MeSH hierarchy.

Tree Number(s): N06.850.135.122 MeSH Unique ID: D000058

Entry Terms:

Synonymes et termes associés

- Falls
- Falling
- · Falls, Accidental
- Accidental Fall
- Fall, Accidental
- Slip and Fall
- Fall and Slip

Previous Indexing:

Accidents (1966-1986)

Hiérarchie

All MeSH Categories

Health Care Category

Environment and Public Health

Public Health

Accidents

Accidental Falls

N.B.: par défaut, le système cherche le terme mais aussi tous ceux qui se trouvent en-dessous de lui dans la hiérarchie

## VISUALISATION DES MESH ATTRIBUÉS

Review

> BMJ Open, 7 (2), e013661 2017 Feb 6

# Systematic Review and Meta-Analysis: Tai Chi for Preventing Falls in Older Adults

Zhi-Guan Huang, Yun-Hui Feng ... Chang-Sheng Lv + expand

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Design: Systematic review and meta-analysis.

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Outcome measures: Number of fallers and rate of falls.

Results: 18 trials with 3824 participants were included. The Tai Chi group was associated with significantly lower chance of falling at least once (risk ratio (RR) 0.80, 95% CI 0.72 to 0.88) and rate of falls (incidence rate ratio (IRR) 0.69, 95% CI 0.60 to 0.80) than the control group. Subgroup analyses suggested that the preventive effect was likely to increase with exercise frequency (number of fallers: p=0.001; rate of falls: p=0.007) and Yang style Tai Chi was likely to be more effective than Sun style Tai Chi (number of fallers: p=0.01; rate of falls: p=0.001). The results might be influenced by publication bias as the funnel plots showed asymmetry. Sensitivity analyses by sample size, risk of bias and comorbidity showed no major influence on the primary results.

**Conclusions:** Tai Chi is effective for preventing falls in older adults. The preventive effect is likely to increase with exercise frequency and Yang style Tai Chi seems to be more effective than Sun style Tai Chi.

Keywords: Falls; Meta-analysis; Older adults; Systematic review; Tai Chi.

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LinkOut - more resources

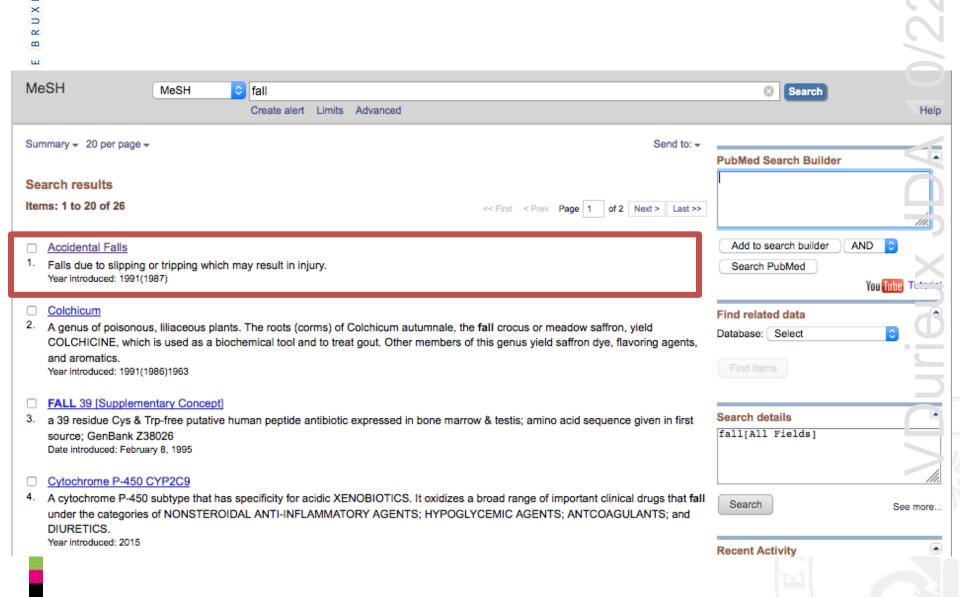
N.B.: l'étoile indique un descripteur « majeur » (= MeSH Major Topic)

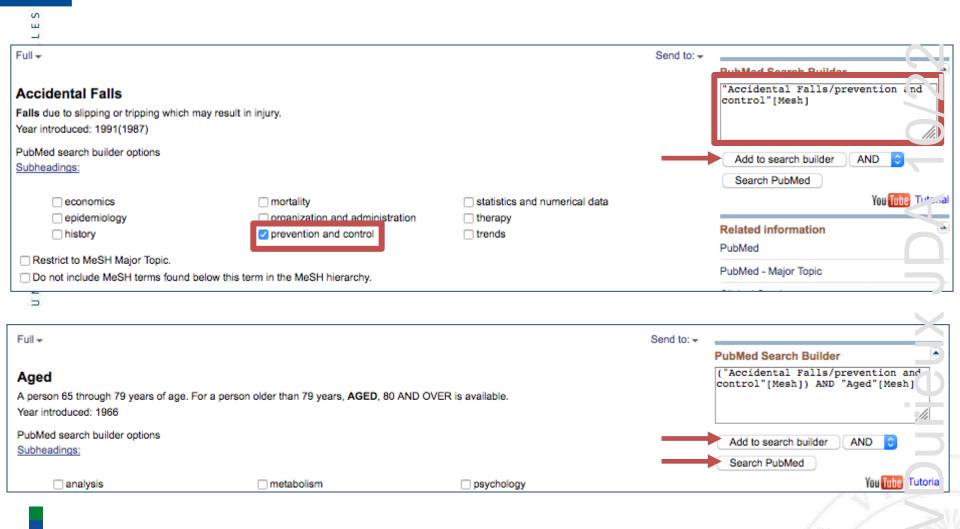


# INTERROGER PUBMED À L'AIDE DES MESH

#### Exemple de sujet de recherche:

La prévention des chutes chez les personnes âgées





## INTERROGER PUBMED À L'AIDE DES MESH

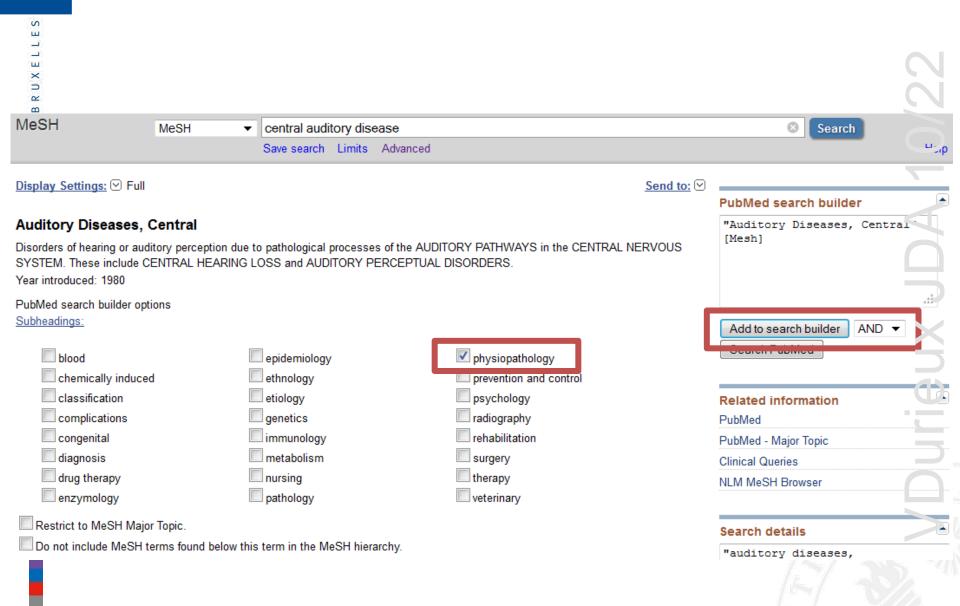
#### Exemple de sujet de recherche:

Contribution de la magnétoencéphalographie à la compréhension de la physiopathologie des troubles auditifs centraux

## OUTIL D'AIDE À LA TRADUCTION

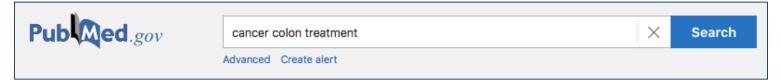


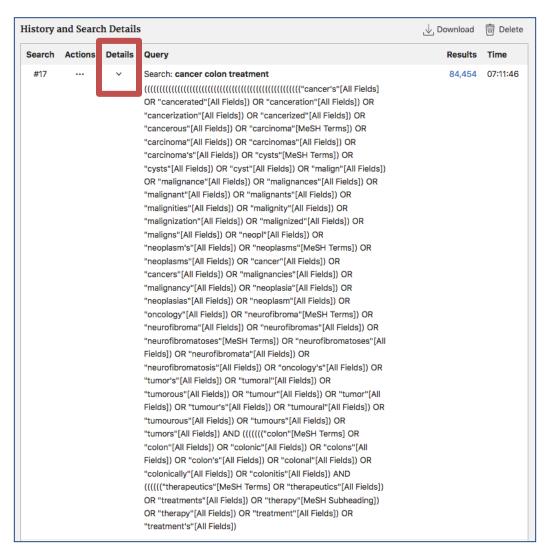
https://www.hetop.eu



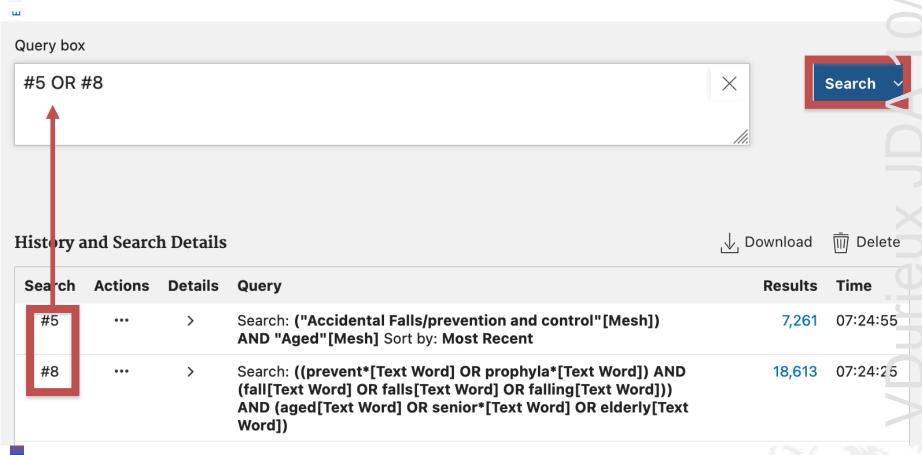
MeSH	MeSH ▼	magnetoencephalogr	· ·			Search	0/22
		Save search Limits	Advanced				Lieih
Magnetoencephalog The measurement of magnetin the brain are accompanie brain activity which is comportogether with electroence Year introduced: 1989 PubMed search builder opti	localization of be used alone	PubMed search builder  ("Auditory Diseases, Central/physiopathology" [Mesh]) AND  "Magnetoencephalography" [Magnetoencephalography" [Magnetoencephalography] [Magnetoencephalography] [Magnetoencephalography] [Magnetoencephalography]	id.				
Subheadings:		n			ı	Search PubMed	-0
adverse effects classification contraindications drug effects economics		ethics history instrumentation methods psychology		radiation effects standards statistics and numerical data trends utilization		Related information PubMed PubMed - Major Topic Clinical Queries	
Restrict to MeSH Major Do not include MeSH to	•	term in the MeSH hierard	chy.			NLM MeSH Browser	

#### LIMITES DE LA RECHERCHE SIMPLE





# COMBINER LES RECHERCHES EN MESH ET PAR MOTS-CLÉS



# CONSTRUIRE SON ÉQUATION

ex. : La prévention des chutes chez les personnes âgées

Termes	MeSH	Mots-clés
prévention chutes	"Accidental Falls/prevention and control"[Mesh]	Prevention, prevent, prophylaxis, prophylactic fall(s), falling
personnes âgées	"Aged"[Mesh]	Aged, elderly, oldest old

#### Ecrire l'équation dans Word

("Accidental Falls/prevention and control" [Mesh] OR

(prevent\*[tw] OR prophyla\*[tw]) AND [fall[tw] OR falls[tw]

OR falling[tw]) AND ("Aged" [Mesh] OR aged[tw] OR

senior\*[tw] OR elderly[tw])

Copier-coller l'équation dans l'écran de recherche simple

## Utilisation d'articles contrôles

→ pour vérifier que la requête ramène un maximum de résultats



