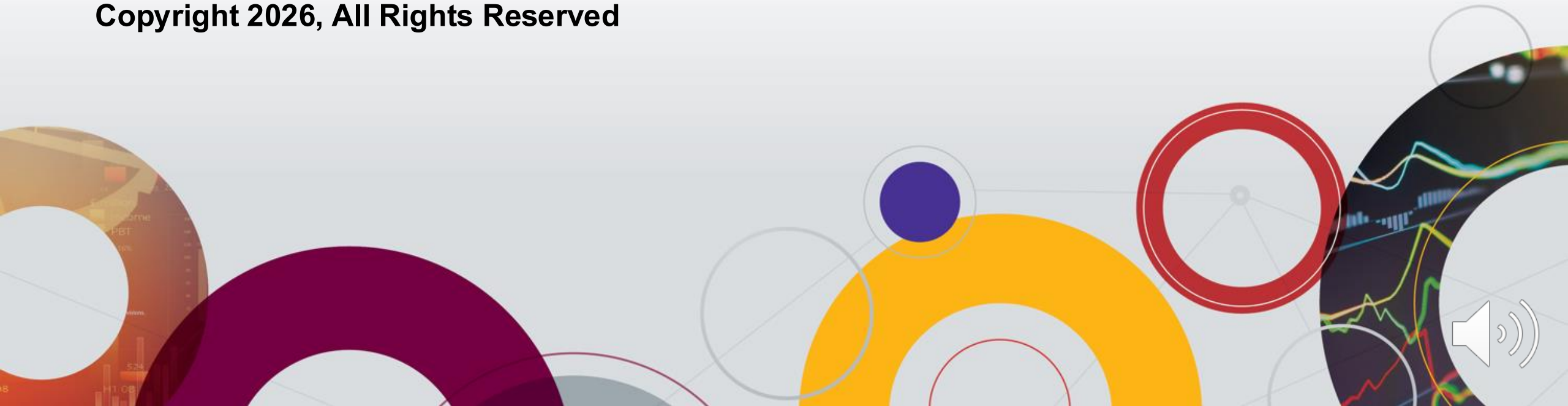


8.4a Retrieval

10x10 – Introduction to Biomedical Informatics & Artificial Intelligence
William Hersh, MD, FACMI, FAMIA, FIAHSI
Copyright 2026, All Rights Reserved



Retrieval

Two general approaches – most systems make use of both, e.g., PubMed and Google

- Boolean, set-based, exact-match
- Natural language, automated, partial-match

Early systems tended to be Boolean

- Preferred by power users?

More recent systems based on natural language

- Simpler for less experienced searchers?

Boolean retrieval

Basic approach

- Build sets of content items (i.e., documents) based on search terms from controlled vocabulary or text words
- Combine with AND, OR, NOT

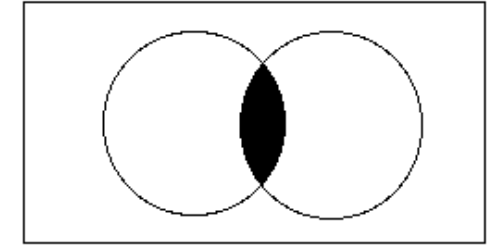
Most bibliographic systems use Boolean operators

- Allow searching on both assigned indexing terms and text words

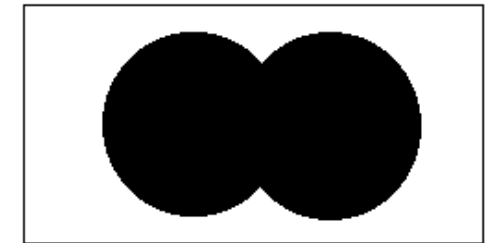
Systems retrieving other types of content use them too, though they are sometimes hidden, e.g., Google performs AND of all words in query

Boolean operators

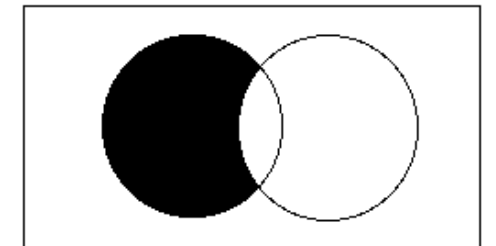
AND – only content items that have all terms



OR – content items that have any term



NOT – content items with one term but not other



Some advanced features of Boolean systems

Proximity operators require words to be within a certain range

- e.g., colon (4) cancer, “colon cancer”

Explosions perform OR down a hierarchy

- PubMed “autoexplodes” many MeSH terms, e.g.,
 - All diseases in a category, e.g., anemias
 - All drugs in a certain class, e.g., ACE inhibitors

Subheadings refine a heading

- e.g., diagnosis of hypertension

PubMed – <https://pubmed.gov>

NLM system for searching MEDLINE

- Includes some OLDMEDLINE (before 1966) as well as other records not indexed in MEDLINE

Based on Boolean heritage but has added automated features over the years

- Search algorithm tries to map input to MeSH terms, author name, and other phrases
- Has traditional Boolean set capability in Advanced interface but most users do not use it

Historical output order was reverse chronological but now defaults to “Sort by Relevance” (Fiorini, 2018)

Other valuable features of PubMed

Spelling correction

Proximity searching using quotes ("...")

Graphical interface for applying filters

Link Out to full text (and other resources)

- Link to publisher site, may not be free

Clinical Queries

- Help find best evidence for EBM question types

MyNCBI

- Allows saved searches, custom filters, emailing of results, etc.

Tour of PubMed

User wants to know about treatment of congestive heart failure with angiotensin-converting enzyme (ACE) inhibitors

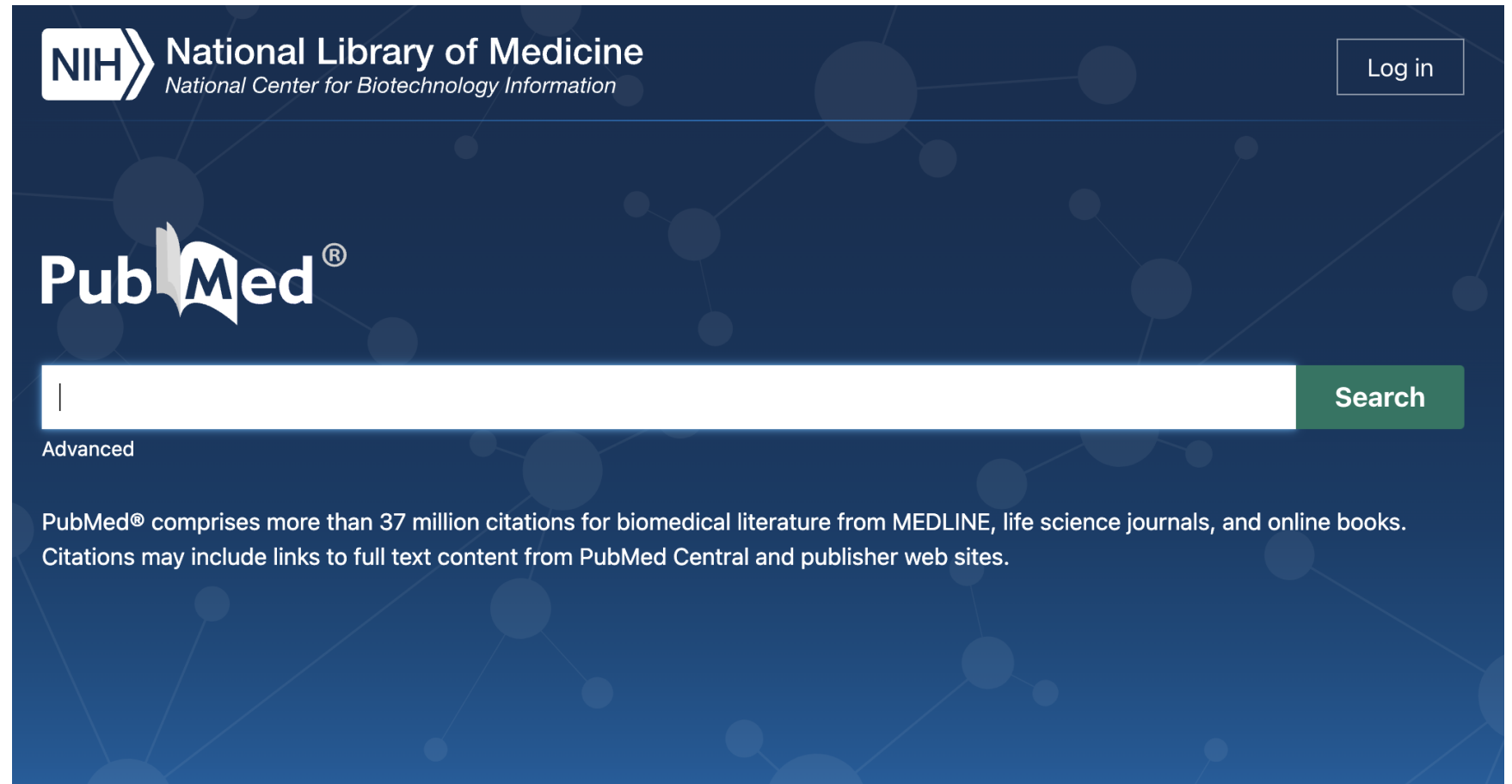
- PubMed maps query into appropriate Boolean statement

Simple AND yields way too many results, so want to narrow down, especially to best evidence

- Done by applying filters or using Clinical Queries

Main screen at:

pubmed.gov



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Explore

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Journals



A search on: congestive heart Failure

Note many
features, to be
discussed in
following slides

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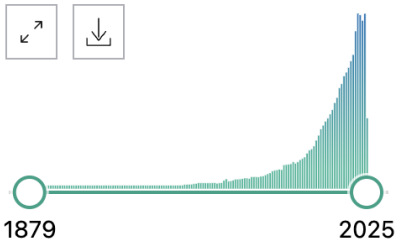
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TEXT AVAILABILITY

☐ Abstract

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349,511 results ⏪ < Page 1 of 34,952 > ⏩

☐ 1

Reversible dilated cardiomyopathy in systemic lupus erythematosus: A case report.

Cite Reis J, Leite M, Jesus G, Ferreira D, Pereira S, Seixas A.

Share Lupus. 2025 Apr 28;9612033251337516. doi: 10.1177/09612033251337516. Online ahead of print. PMID: 40289922

A 40-year-old woman presented with new-onset **heart failure** with reduced ejection fraction (HFrEF) accompanied with systemic symptoms, including arthralgia, cutaneous lesions, and Raynaud's phenomenon. ...Early recognition and appropriate management of underlying aut ...

☐ 2

Furosemide-hydration matching with RenalGuard() in decompensated heart failure: an alternative way to use diuretics and saline.

Cite Mapelli M, Rubbo FM, Campodonico J, Cosentino N, Marenzi G, Mantegazza V, Trombara F, Sokolski M, Ponikowski P, Agostoni P.

Share ESC Heart Fail. 2025 Apr 28. doi: 10.1002/ehf2.15316. Online ahead of print. PMID: 40289907 No abstract available.

☐ 3

Splenic CD169⁺Tim4⁺ Marginal Metallophilic Macrophages Are Essential for Wound Healing After Myocardial Infarction.

Cite Ismahil MA, Zhou G, Rajasekar S, Gao M, Bansal SS, Patel B, Limdi N, Xie M, Antipenko S, Rokosh G, Hamid T, Prabhu SD.

Share Circulation. 2025 Apr 28. doi: 10.1161/CIRCULATIONAHA.124.071772. Online ahead of print.



A search on:
ACE inhibitors

(Angiotensin-
converting
enzyme
inhibitors)

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ace inhibitors

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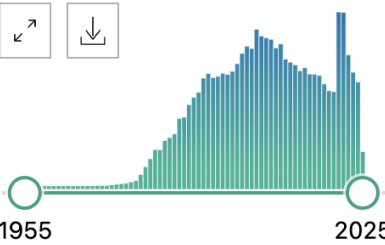
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64,240 results

Page 1 of 6,424

RESULTS BY YEAR



19552025

PUBLICATION DATE

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TEXT AVAILABILITY

☐ Abstract

☐ Free full text

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☐ 1

Management of hypotension in dihydropyridine calcium channel blocker overdose: The role of high-dose insulin therapy.

Cite

Chan BSH, Isoardi KZ, Roberts DM, Har OS.

Share

Br J Clin Pharmacol. 2025 Apr 27. doi: 10.1002/bcp.70081. Online ahead of print.

PMID: 40289269

☐ 2

Enteric-coated Mycophenolate Sodium plus hydroxychloroquine therapy versus hydroxychloroquine for the Remission of Proteinuria in IgA Nephropathy (EMSAR-IgAN trial): study protocol for a randomised trial.

Cite

Yan B, Tie X, Wang L, Qiao X, Su X.

Share

BMJ Open. 2025 Apr 27;15(4):e098688. doi: 10.1136/bmjopen-2024-098688.

PMID: 40288788 Clinical Trial.

All enrolled patients will receive standard basic treatment to achieve optimum blood pressure and the maximum tolerated dose of **ACE inhibitors** or angiotensin receptor blockers. The primary outcome is the change in 24-hour urine protein at 6 months relative to baseli ...

☐ 3

Sex Disparities in Medical Management: Influence on Morbidity in Peripheral Arterial Disease.

Cite

Zhong Q, Ahmed U, Yunus RA, Saeed S, Sohail M, Manji A, Robitaille M, Schermerhorn ML, Mahmood F, Matyal R.

Share

Ann Vasc Surg. 2025 Apr 24:S0890-5096(25)00292-4. doi: 10.1016/j.avsg.2025.04.109. Online



Combined with Boolean AND

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congestive heart failure and ace inhibitors

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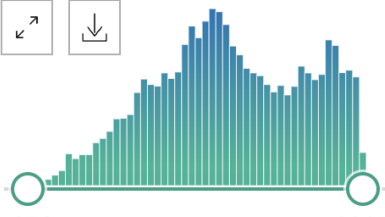
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RESULTS BY YEAR



1976 2025

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TEXT AVAILABILITY

☐ Abstract

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☐ 1

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Sacubitril/Valsartan Improves Hemodynamic Parameters of Pulmonary and Systemic Circulation in Patients Awaiting Heart Transplantation.

Ráduly AP, Saman Kothalawala E, Balogh L, Majoros Z, Pólik Z, Fülöp L, Győry F, Nagy L, Bódi B, Kovács MB, Csanádi Z, Papp Z, Muk B, Borbély A.

J Clin Med. 2025 Apr 8;14(8):2539. doi: 10.3390/jcm14082539.

PMID: 40283370 **Free PMC article.**

Background/Objectives: **Heart** transplantation (HTX) is the definitive treatment for advanced **heart failure** (AdHF). The angiotensin receptor neprilysin inhibitor (ARNI) sacubitril/valsartan (S/V) has been shown to reduce **heart failure** (HF) hospita ...

☐ 2

Cite

Share

Newly diagnosed heart failure with reduced ejection fraction: timing, sequencing, and titration of guideline-recommended medical therapy.

Malgie J, Wilde MI, Brunner-La Rocca HP, Emans ME, De Boer GA, Siegers CEP, van Stipdonk AMW, Wardeh AJ, Schaap J, Sanders-van Wijk S, van den Heuvel M, Wierda E, De Boer RA, Koudstaal S, Brugts JJ.

Eur Heart J. 2025 Apr 24;ehaf244. doi: 10.1093/eurheartj/ehaf244. Online ahead of print.

PMID: 40272103

BACKGROUND AND AIMS: Despite guidelines recommending rapid initiation and up-titration of Guideline-recommended medical therapy (GRMT) for **heart failure** (HF) with reduced ejection fraction (HFrEF), its feasibility in daily practice remains unclear. ...Drug titration ...



You actually do not need to type the AND

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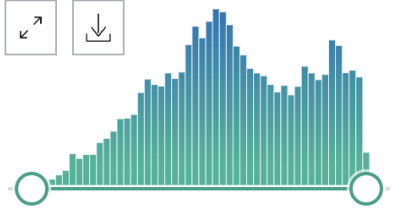
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RESULTS BY YEAR



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Sacubitril/Valsartan Improves Hemodynamic Parameters of Pulmonary and Systemic Circulation in Patients Awaiting Heart Transplantation.

Ráduly AP, Saman Kothalawala E, Balogh L, Majoros Z, Pólik Z, Fülöp L, Győry F, Nagy L, Bódi B, Kovács MB, Csanádi Z, Papp Z, Muk B, Borbély A.

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Newly diagnosed heart failure with reduced ejection fraction: timing, sequencing, and titration of guideline-recommended medical therapy.

Malgie J, Wilde MI, Brunner-La Rocca HP, Emans ME, De Boer GA, Siegers CEP, van Stipdonk AMW, Wardeh AJ, Schaap J, Sanders-van Wijk S, van den Heuvel M, Wierda E, De Boer RA, Koudstaal S, Brugts JJ.

Eur Heart J. 2025 Apr 24;ehaf244. doi: 10.1093/eurheartj/ehaf244. Online ahead of print.

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How does it
do all of this?

Search	Actions	Details	Query	Results	Time
#2	...	▼	Search: congestive heart failure ace inhibitors Sort by: Most Recent ("heart failure"[MeSH Terms] OR ("heart"[All Fields] AND "failure"[All Fields]) OR "heart failure"[All Fields] OR ("congestive"[All Fields] AND "heart"[All Fields] AND "failure"[All Fields]) OR "congestive heart failure"[All Fields]) AND ("angiotensin converting enzyme inhibitors"[Pharmacological Action] OR "angiotensin converting enzyme inhibitors"[Supplementary Concept] OR "angiotensin converting enzyme inhibitors"[All Fields] OR "ace inhibitors"[All Fields] OR "angiotensin converting enzyme inhibitors"[MeSH Terms] OR ("angiotensin converting"[All Fields] AND "enzyme"[All Fields] AND "inhibitors"[All Fields]) OR ("ace"[All Fields] AND "inhibitors"[All Fields])) Translations congestive heart failure: "heart failure"[MeSH Terms] OR ("heart"[All Fields] AND "failure"[All Fields]) OR "heart failure"[All Fields] OR ("congestive"[All Fields] AND "heart"[All Fields] AND "failure"[All Fields]) OR "congestive heart failure"[All Fields] ace inhibitors: "angiotensin-converting enzyme inhibitors"[Pharmacological Action] OR "angiotensin-converting enzyme inhibitors"[Supplementary Concept] OR "angiotensin-converting enzyme inhibitors"[All Fields] OR "ace inhibitors"[All Fields] OR "angiotensin-converting enzyme inhibitors"[MeSH Terms] OR ("angiotensin-converting"[All Fields] AND "enzyme"[All Fields] AND "inhibitors"[All Fields]) OR ("ace"[All Fields] AND "inhibitors"[All Fields])	13,531	06:38:48



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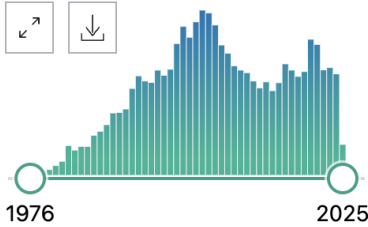
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☐ 10 years

☐ Custom Range

TEXT AVAILABILITY

☐ Abstract

☐ Free full text

☐ Full text

☐ **Congestive Heart Failure.**

1 Scott MC, Winters ME.

Cite Emerg Med Clin North Am. 2015 Aug;33(3):553-62. doi: 10.1016/j.emc.2015.04.006. Epub 2015 Jun 10.

Share PMID: 26226866 Review.

Patients with acute decompensated **heart failure** are usually critically ill and require immediate treatment. However, most are not volume overloaded. ...Short-term inotropic therapy can be considered in select patients with cardiogenic shock and acute decompensated ...

☐ **ACE inhibitors in congestive heart failure.**

2 Riegger AJ.

Cite Cardiology. 1989;76 Suppl 2:42-9. doi: 10.1159/000174558.

Share PMID: 2670220 Review.

The renin-angiotensin-aldosterone system plays an important role in the development of **congestive heart failure** (CHF). In patients with chronic **heart failure**, **angiotensin-converting enzyme (ACE) inhibitors**, suc ...

☐ **Underutilisation of ACE inhibitors in patients with congestive heart failure.**

3 Bungard TJ, McAlister FA, Johnson JA, Tsuyuki RT.

Cite Drugs. 2001;61(14):2021-33. doi: 10.2165/00003495-200161140-00002.

PMID: 11735631 Review.



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[Review](#) > [Biochem Pharmacol.](#) 2024 Apr 20;116232. doi: 10.1016/j.bcp.2024.116232.
Online ahead of print.

Challenging and target-based shifting strategies for heart failure treatment: An update from the last decades

[Yuichi Hattori](#)¹, [Kohshi Hattori](#)², [Kuniaki Ishii](#)³, [Masanobu Kobayashi](#)⁴

Affiliations [+ expand](#)
PMID: 38648905 DOI: [10.1016/j.bcp.2024.116232](#)

Abstract

Heart failure (HF) is a major global health problem afflicting millions worldwide. Despite the significant advances in therapies and prevention, HF still carries very high morbidity and mortality, requiring enormous healthcare-related expenditure, and the search for new weapons goes on. Following initial treatment strategies targeting inotropism and congestion, attention has focused on offsetting the neurohormonal overactivation and three main therapies, including angiotensin-converting enzyme inhibitors or angiotensin II type 1 receptor antagonists, β -adrenoceptor antagonists, and mineralocorticoid receptor antagonists, have been the foundation of standard treatment for patients with HF. Recently, a paradigm shift, including angiotensin receptor-neprilysin inhibitor, sodium glucose co-transporter 2 inhibitor, and ivabradine, has been added. Moreover, soluble guanylate cyclase stimulator, elamipretide, and omecamtiv mecarbil have come out as a next-generation therapeutic agent for patients with HF. Although these pharmacologic therapies have been significantly successful in relieving symptoms, there is still no complete cure for HF. We may be currently entering a new era of treatment for HF with animal experiments and human clinical trials assessing the value of antibody-based immunotherapy and gene therapy as a novel therapeutic strategy. Such tempting therapies still have some challenges to be addressed but may become a weighty option for treatment of HF. This review article will compile the paradigm shifts in HF treatment over the past dozen years or so and illustrate current landscape of antibody-based immunotherapy and gene therapy as a new therapeutic algorithm for patients with HF.

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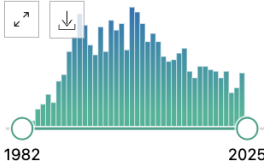
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TEXT AVAILABILITY

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ARTICLE ATTRIBUTE

☐ Associated data

ARTICLE TYPE

☐ Books and Documents
☐ Clinical Trial
☐ Guideline
☐ Meta-Analysis
☐ Practice Guideline
☒ Randomized Controlled Trial
☐ Review
☐ Systematic Review

Filters applied: Randomized Controlled Trial. Clear all

1 Estimating lifetime benefits of comprehensive disease-modifying pharmacological therapies in patients with **heart failure** with reduced ejection fraction: a comparative analysis of three randomised controlled trials.
Vaduganathan M, Claggett BL, Jhund PS, Cunningham JW, Pedro Ferreira J, Zannad F, Packer M, Fonarow GC, McMurray JJV, Solomon SD.
Lancet. 2020 Jul 11;396(10244):121-128. doi: 10.1016/S0140-6736(20)30748-0. Epub 2020 May 21.
PMID: 32446323 Free article. Clinical Trial.
BACKGROUND: Three drug classes (mineralocorticoid receptor antagonists [MRAs], angiotensin receptor-neprilysin **inhibitors** [ARNIs], and sodium/glucose cotransporter 2 [SGLT2] **inhibitors**) reduce mortality in patients with **heart failure** with reduced ejection fraction ...

2 ACE inhibitors in congestive heart failure.
Riegger AJ.
Cardiology. 1989;76 Suppl 2:42-9. doi: 10.1159/000174558.
PMID: 2670220 Review.
The renin-angiotensin-aldosterone system plays an important role in the development of **congestive heart failure** (CHF). In patients with chronic **heart failure**, **angiotensin-converting enzyme (ACE) inhibitors**, such as ...

3 Effects of candesartan in patients with chronic **heart failure** and reduced left-ventricular systolic function intolerant to **angiotensin-converting-enzyme inhibitors**: the CHARM-Alternative trial.
Granger CB, McMurray JJ, Yusuf S, Held P, Michelson EL, Olofsson B, Ostergren J, Pfeffer MA, Swedberg K; CHARM Investigators and Committees.
Lancet. 2003 Sep 6;362(9386):772-6. doi: 10.1016/S0140-6736(03)14284-5.
PMID: 13678870 Clinical Trial.
BACKGROUND: **Angiotensin-converting-enzyme (ACE) inhibitors** improve outcome of patients with chronic **heart failure** (CHF). ...INTERPRETATION: Candesartan was generally well tolerated and reduced cardiovascular mortality and morbidity ...

4 A randomized trial of the angiotensin-receptor blocker valsartan in chronic **heart failure**.
Cohn JN, Tognoni G; Valsartan Heart Failure Trial Investigators.
N Engl J Med. 2001 Dec 6;345(23):1667-75. doi: 10.1056/NEJMoa010713.
PMID: 11759645 Free article. Clinical Trial.



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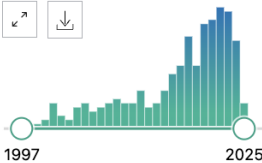
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TEXT AVAILABILITY

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☐ Randomized Controlled Trial

☐ Review

☒ Systematic Review

226 results

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☐ 1

A Systematic Review and Network Meta-Analysis of Pharmacological Treatment of Heart Failure With Reduced Ejection Fraction.

Tromp J, Ouwerkerk W, van Veldhuisen DJ, Hillege HL, Richards AM, van der Meer P, Anand IS, Lam CSP, Voors AA.

JACC Heart Fail. 2022 Feb;10(2):73-84. doi: 10.1016/j.jchf.2021.09.004. Epub 2021 Dec 8.

PMID: 34895860 [Free article.](#)

METHODS: We performed a systematic network meta-analysis, using MEDLINE/EMBASE and the Cochrane Central Register of Controlled Trials for randomized controlled trials published between January 1987 and January 2020. We included **angiotensin-converting enzyme** ...

☐ 2

Pharmacological Treatments in Heart Failure With Mildly Reduced and Preserved Ejection Fraction: Systematic Review and Network Meta-Analysis.

Zafeiropoulos S, Farmakis IT, Milioglou I, Doundoulakis I, Gorodeski EZ, Konstantinides SV, Cooper L, Zanos S, Stavrakis S, Giamouzis G, Butler J, Giannakoulas G.

JACC Heart Fail. 2024 Apr;12(4):616-627. doi: 10.1016/j.jchf.2023.07.014. Epub 2023 Aug 30.

PMID: 37656079 [Free article.](#)

BACKGROUND: Medical treatment for **heart failure** with preserved ejection (HFpEF) and **heart failure** with mildly reduced ejection fraction (HFmrEF) has weaker evidence compared with reduced ejection fraction, despite recent trials with an angiotensin rece ...

☐ 3

Calcium channel blockers versus other classes of drugs for hypertension.

Zhu J, Chen N, Zhou M, Guo J, Zhu C, Zhou J, Ma M, He L.

Cochrane Database Syst Rev. 2022 Jan 9;1(1):CD003654. doi: 10.1002/14651858.CD003654.pub6.

PMID: 35000192 [Free PMC article.](#) [Review.](#)

As compared to beta-blockers, CCBs reduced the following outcomes: major cardiovascular events (RR 0.84, 95% CI 0.77 to 0.92), stroke (RR 0.77, 95% CI 0.67 to 0.88, moderate-certainty evidence), and cardiovascular mortality (RR 0.90, 95% CI 0.81 to 0.99, low-certainty evidence). ...

☐ 4

Underutilisation of ACE inhibitors in patients with congestive heart failure.

Bungard TJ, McAllister FA, Johnson JA, Tsuyuki RT.

Drugs. 2001;61(14):2021-33. doi: 10.2165/00003495-200161140-00002.

PMID: 11735631 [Review.](#)

Congestive heart failure (CHF) is associated with substantial morbidity and mortality, and is the only major cardiovascular disease increasing in prevalence. Despite abundant evidence to support their efficacy and cost-effectiveness, **angiotensin-con** ...



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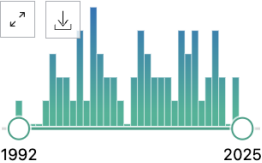
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TEXT AVAILABILITY

☐ Abstract

☐ Free full text

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ARTICLE ATTRIBUTE

☐ Associated data

ARTICLE TYPE

☐ Books and Documents

☐ Clinical Trial

☒ Guideline

☐ Meta-Analysis

☐ Practice Guideline

☐ Randomized Controlled Trial

☐ Review

☐ Systematic Review

☒ Filters applied: Guideline. Clear all

1

Cite

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2022 AHA/ACC/HFSA Guideline for the Management of **Heart Failure**: A Report of the American College of Cardiology/American **Heart** Association Joint Committee on Clinical Practice Guidelines.

Heidenreich PA, Bozkurt B, Aguilar D, Allen LA, Byun JJ, Colvin MM, Deswal A, Drazner MH, Dunlay SM, Evers LR, Fang JC, Fedson SE, Fonarow GC, Hayek SS, Hernandez AF, Khazanie P, Kittleson MM, Lee CS, Link MS, Milano CA, Nnacheta LC, Sandhu AT, Stevenson LW, Vardeny O, Vest AR, Yancy CW.

J Am Coll Cardiol. 2022 May 3;79(17):e263-e421. doi: 10.1016/j.jacc.2021.12.012. Epub 2022 Apr 1. PMID: 35379503 **Free article.**

AIM: The "2022 AHA/ACC/HFSA Guideline for the Management of **Heart Failure**" replaces the "2013 ACCF/AHA Guideline for the Management of **Heart Failure**" and the "2017 ACC/AHA/HFSA Focused Update of the 2013 ACCF/AHA Guideline for the Management of **Heart** ...

2

Cite

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2017 ACC/AHA/HFSA Focused Update of the 2013 ACCF/AHA Guideline for the Management of **Heart Failure**: A Report of the American College of Cardiology/American **Heart** Association Task Force on Clinical Practice Guidelines and the **Heart Failure** Society of America.

Yancy CW, Jessup M, Bozkurt B, Butler J, Casey DE Jr, Colvin MM, Drazner MH, Filippatos GS, Fonarow GC, Givertz MM, Hollenberg SM, Lindenfeld J, Masoudi FA, McBride PE, Peterson PN, Stevenson LW, Westlake C.

Circulation. 2017 Aug 8;136(6):e137-e161. doi: 10.1161/CIR.0000000000000509. Epub 2017 Apr 28. PMID: 28455343 **Review.** **No abstract available.**

3

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AMERICAN ASSOCIATION OF CLINICAL ENDOCRINOLOGISTS AND AMERICAN COLLEGE OF ENDOCRINOLOGY COMPREHENSIVE CLINICAL PRACTICE GUIDELINES FOR MEDICAL CARE OF PATIENTS WITH OBESITY.

Garvey WT, Mechanick JL, Brett EM, Garber AJ, Hurley DL, Jastreboff AM, Nadolsky K, Pessah-Pollack R, Plodkowski R; Reviewers of the AACE/ACE Obesity Clinical Practice Guidelines.

Endocr Pract. 2016 Jul;22 Suppl 3:1-203. doi: 10.4158/EP161365.GL. Epub 2016 May 24. PMID: 27219496

OBJECTIVE: Development of these guidelines is mandated by the American Association of Clinical Endocrinologists (AACE) Board of Directors and the American College of Endocrinology (**ACE**) Board of Trustees and adheres to published AACE protocols for the standardized producti ...

2014 evidence-based guideline for the management of high blood pressure in

Can also use
“advanced”
interface

PubMed Advanced Search Builder



✓ Filters applied: Guideline. [Clear all](#)

Add terms to the query box

All Fields

Enter a search term

ADD

[Show Index](#)

Query box

Enter / edit your search query here

Search

History and Search Details

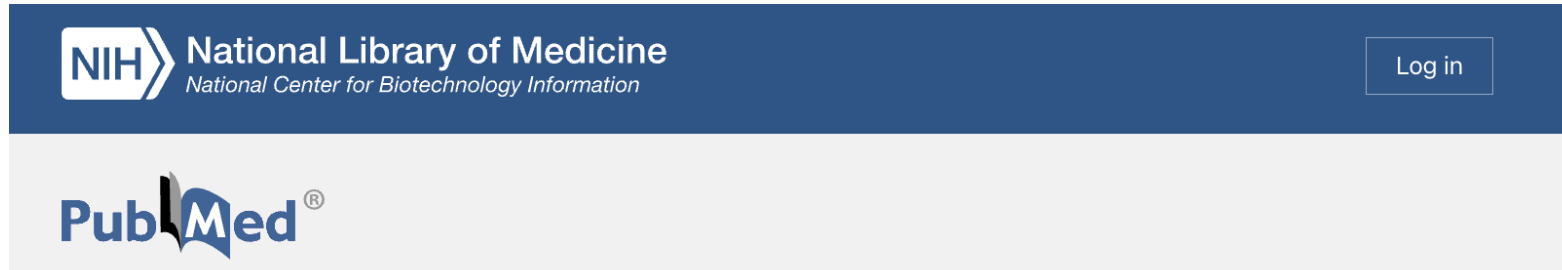
 Download  Delete

Search	Actions	Details	Query	Results	Time
#7	...	>	Search: congestive heart failure ace inhibitors Filters: Guideline	66	06:45:17
#6	...	>	Search: congestive heart failure ace inhibitors Filters: Systematic Review	226	06:45:11
#5	...	>	Search: congestive heart failure ace inhibitors Filters: Randomized Controlled Trial	1,558	06:45:00
#2	...	>	Search: congestive heart failure ace inhibitors	13,531	06:44:09
#4	...	! >	Search: congestive heart failure and ace inhibitors Sort by: Most Recent	13,531	06:37:30
#3	...	>	Search: ace inhibitors Sort by: Most Recent	64,240	06:36:10
#1	...	>	Search: congestive heart failure Sort by: Most Recent	349,511	06:32:45

Showing 1 to 7 of 7 entries



Another option: Clinical Queries



PubMed Clinical Queries

This tool uses [predefined filters](#) to help you quickly refine PubMed searches on clinical or disease-specific topics. To use this tool, enter your search terms in the search bar and select filters before searching.

The image shows the PubMed Clinical Queries search interface. At the top is a search bar containing the text "congestive heart failure ace inhibitors" and a "Search" button. Below the search bar are three filter categories: "Filter category", "Filter", and "Scope". The "Filter category" section has two radio buttons: "Clinical Studies" (selected) and "COVID-19". Below these is a note: "Clinical Queries filters were developed by Haynes RB et al. to facilitate retrieval of clinical studies." The "Filter" section is a dropdown menu that is currently open, showing a list of filter options: "Therapy" (checked), "Clinical Prediction Guides", "Diagnosis", "Etiology", and "Prognosis". The "Scope" section has a dropdown menu set to "Broad". Below this is a note: "Returns more results: less specific, but more comprehensive. See filter details." At the bottom right of the filter section is a "Reset form" button.

Can also set up myNCBI account

Saved searches

- Can be sent via email

Can also

- Maintain bibliography
- Establish collections and filters
- Generate SciENcv

The screenshot displays the myNCBI account dashboard for a user named 'hersh'. The dashboard is organized into several panels:

- Search NCBI databases:** A search bar with 'PubMed' selected and a 'Search' button. A hint below states: 'Hint: clicking the "Search" button without any terms listed in the search box will transport you to that database's homepage.'
- My Bibliography:** Shows 'Your bibliography contains 289 items.' and provides a shareable URL: <https://www.ncbi.nlm.nih.gov/myncbi/william%20r.hersh.1/bibliography/public/>. A 'Manage My Bibliography' link is at the bottom.
- Recent Activity:** A table showing recent database activity.
- Saved Searches:** A message stating 'You don't have any saved searches yet.' and a link to 'Manage Saved Searches'.
- Collections:** A table showing collections, currently displaying 'Favorites' with 0 items, set to 'Private' and 'Standard' type. A 'Manage Collections' link is at the bottom.
- Filters:** A message stating 'You do not have any active filters for this database.' and a link to 'Manage Filters'.
- SciENcv:** A table showing the user's SciENcv profile.

Time	Database	Type	Term
29-Jan-2026	Books	record	SciENcv - My NCBI Help
22-Dec-2025	Books	record	Artificial Intelligence and Machine...
26-Nov-2025	Books	record	Protected Health Information - Stat...

Name	Last Update	Sharing	Type
5-28-2015	28-May-2015	Public	NIH Biosketch
NIH 2-2-21	02-Feb-2021	Private	NIH Biosketch
NSF 2-2-21	02-Feb-2021	Private	NIH Biosketch
Hersh CV	29-Jan-2026	Private	NIHBiosketch3
Hersh CV COPY	13-Feb-2026	Private	NIH-BGS25-1
5-28-2015 COPY	13-Feb-2026	Private	NIH-BGS25-1

Which features do expert searchers value most (Russell-Rose, 2017)?

