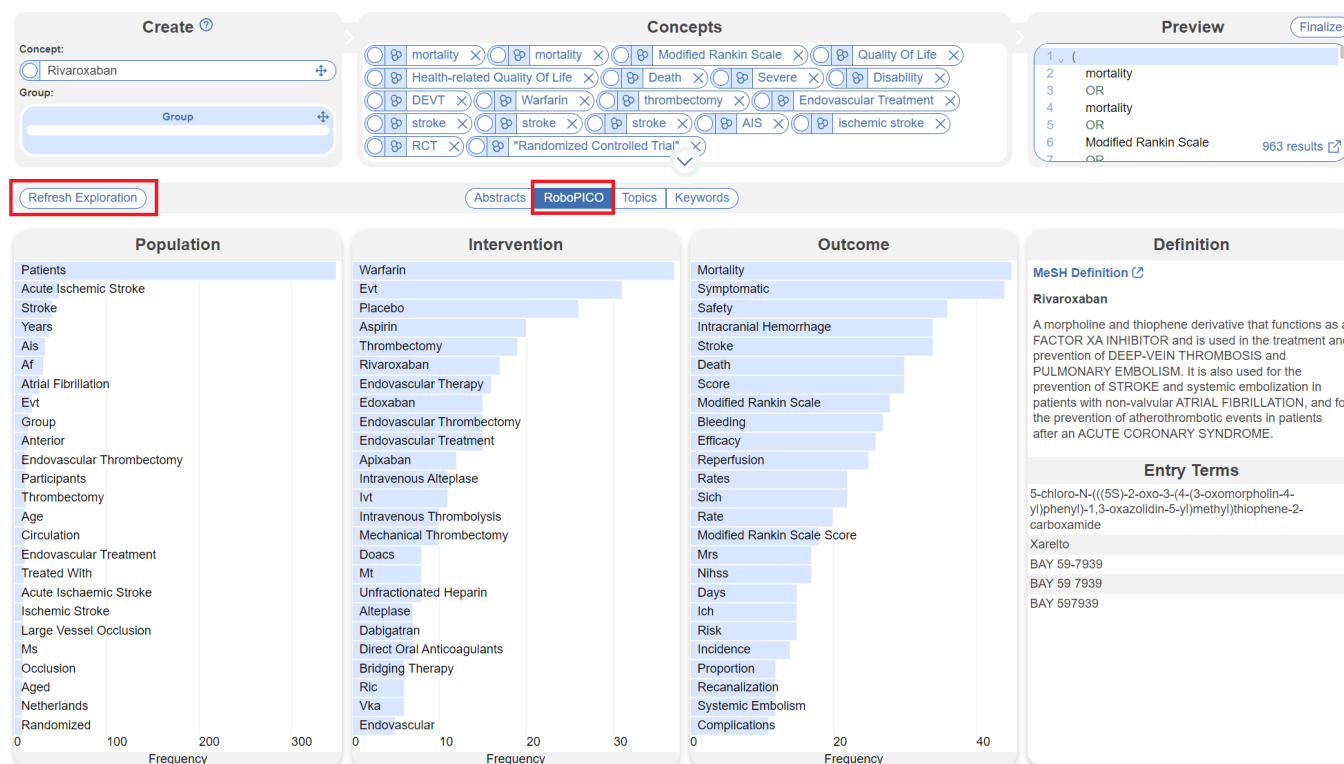


# Artificial Intelligence in Nested Knowledge

Nested Knowledge offers a variety of AI-enhanced tools that make the systematic review process smoother and easier for users. Listed in order of when you would use each tool in the review process, here are **our four key AI features**:

## RoboPICO

- RoboPICO works to provide the most commonly reported terms of interest in [Search Exploration](#) to help you build an effective search query. When you use the Search Exploration tool, RoboPICO automatically runs when you hit “Refresh Exploration.” These terms can then be built into your search query.



- RoboPICO also auto-highlights identified Populations, Interventions, Comparators/Outcomes (PICOs) [found in Abstracts](#) during Screening to aid you to more efficiently make a decision on inclusion or exclusion of the record.

van der Ende, 2023

## Safety and Efficacy of Dual Thrombolytic Therapy With Mutant Prourokinase and Small Bolus Alteplase for Ischemic Stroke: A Randomized Clinical Trial.

**IMPORTANCE** Dual thrombolytic treatment with small bolus alteplase and mutant prourokinase has the potential to be a safer and more efficacious treatment for ischemic stroke than alteplase alone because mutant prourokinase is designed to act only on degraded fibrin without affecting circulating fibrinogen.

**OBJECTIVE** To assess the safety and efficacy of this dual thrombolytic treatment compared with alteplase. **DESIGN, SETTING, AND PARTICIPANTS** This controlled, open-label randomized clinical trial with a blinded end point was conducted from August 10, 2019, to March 26, 2022, with a total follow-up of 30 days. Adult patients with ischemic stroke from 4 stroke centers in the Netherlands were enrolled. **INTERVENTIONS** Patients were randomized (1:1) to receive a bolus of 5 mg of intravenous alteplase and 40 mg of an intravenous infusion of mutant prourokinase (intervention) or usual care with 0.9 mg/kg of intravenous alteplase (control). **MAIN OUTCOMES AND MEASURES** The primary outcome was any intracranial hemorrhage (ICH) on neuroimaging at 24 hours. Secondary outcomes included functional outcome at 30 days, symptomatic ICH, and fibrinogen levels within 24 hours. Analyses were by intention to treat. Treatment effects were adjusted for baseline prognostic factors. **RESULTS** A total of 268 patients were randomized, and 238 (median [IQR] age, 69 [59-77] years; 147 [61.8%] male) provided deferred consent and were included in the intention-to-treat population (121 in the intervention group and 117 in the control group). The median baseline score on the National Institutes of Health Stroke Scale was 3 (IQR, 2-5). Any ICH occurred in 16 of 121 patients (13.2%) in the intervention group and 16 of 117 patients (13.7%) in the control group (adjusted odds ratio, 0.98; 95% CI, 0.46-2.12). Mutant prourokinase led to a nonsignificant shift toward better modified Rankin Scale scores (adjusted common odds ratio, 1.16; 95% CI, 0.74-1.84). Symptomatic ICH occurred in none of the patients in the intervention group and 3 of 117 patients (2.6%) in the control group. Plasma fibrinogen levels at 1 hour remained constant in the intervention group but decreased in the control group ( $\beta = 65$  mg/dL; 95% CI, 26-105 mg/dL). **CONCLUSIONS AND RELEVANCE** In this trial, dual thrombolytic treatment with small bolus alteplase and mutant prourokinase was found to be safe and did not result in fibrinogen depletion. Further evaluation of thrombolytic treatment with mutant prourokinase in larger trials to improve outcomes in patients with larger ischemic strokes is needed. Overall, in patients with minor ischemic stroke who met indications for treatment with intravenous thrombolytics but were not eligible for treatment with endovascular therapy, dual thrombolytic therapy with intravenous mutant prourokinase was not superior to treatment with intravenous alteplase alone. **TRIAL REGISTRATION** ClinicalTrials.gov Identifier: NCT04256473.

☒ Population/Problem ☒ Intervention ☒ Outcome ☒ Your Keywords

Keywords Bibliographic fields Edit

## Bibliomine

The [Nested Knowledge Bibliomine feature](#) auto-extracts citations when you upload a pdf of any previous systematic review or landmark study and imports all cited references as records directly into your nest. This allows for fast updating of existing reviews and turns them into living reviews through quick implementation in the software. Alternatively, citation mining from an existing project pdf builds a solid foundation for a new project in your field of interest.

Nest Home

Activity

Settings

Add Individual References

Bibliomine

Upload an article

Its bibliography will be automatically mined and complete bibliographic data will be retrieved from PubMed and CrossRef. You may then select and promote the mined references for import into your nest.

Upload a .pdf

File	Date Bibliomined	User	Status	View	Delete
s12245-021-00399-w.pdf	May 3, 2023	Kevin Kalimes	In Screening		

Literature Search

Other Sources

Duplicate Review

Search Exploration

Bibliomine

## Robot Screener

**Robot Screener** replaces one human reviewer with an AI reviewer in nests with a Dual Screening mode. It does require training (50 adjudicated screening decisions and 10 advancements or inclusions) prior to being switched on, but continually trains itself thereafter. Then, a human adjudicator reviews the preliminary screenings and makes the final decision.

The screenshot displays the Nested Knowledge interface. On the left is a sidebar with navigation options: Nest Home, Literature Search, Dual Screening, Tagging, MA Extraction, Critical Appraisal, Study Inspector, and Synthesis. The main content area shows an abstract titled "Clinical Results of the Advanced Neurovascular Access Catheter System Combined With a Stent Retriever in Acute Ischemic Stroke (SOLOIDA)". The abstract text describes a prospective trial of a novel thrombectomy system. On the right, a sidebar titled "Agreements" contains sections for "Navigation", "Preliminary Screenings" (with a red box highlighting "Screening 2 Exclude (Robot Excluded)"), and "Select Different Option". Below these, a "Select Reason" section lists various exclusion criteria like "Does not report BGC-specific treatment group(s)" and "In vitro study".

## Smart Tag Recommendations (Enterprise users only)

**Smart Tag Recommendations** uses OpenAI's GPT-4 to search each full text for the most relevant evidence to extract alongside a tag. This is unlike Standard Tag Recommendations (available to all) which performs a simple keyword search (Standard Tag Recommendations). This feature helps to better answer questions (in Form-based modes) and saves time reading through pdfs to retrieve the data of interest.

The screenshot displays the Nested Knowledge interface with a research article titled "Molnupiravir and Nirmatrelvir/Ritonavir: Tolerability, Safety, and Adherence in a Retrospective Cohort Study". The article text is visible in the main content area. On the right, the "Tag Recommendations" sidebar is active, showing a list of tags such as "Retrospective Study", "Number of Participants", "Median Age", "Sex", "Country", and "Incidence of Any Adverse Events". The "Smart" tag recommendation mode is selected.

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