



Information for Libraries

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LinkOut provides direct links from PubMed and other NCBI databases to a wide range of information and services beyond the NCBI systems. LinkOut aims to facilitate access to relevant online resources to extend, clarify, and supplement information found in NCBI databases. LinkOut resources include full-text publications, biological databases, consumer health information, research tools, and more (see [examples of LinkOut resources](#)).

How LinkOut Works for Libraries

The LinkOut service for Libraries, Outside Tool, allows participating libraries to link directly from PubMed citations to their library's link resolver where library full text resources and Interlibrary Loan options are available to their users. Libraries icons and links to their link resolver display in all PubMed citations.

LinkOut does not perform any user verification. Once a user clicks on a link for a local link resolver, access depends on pre-existing licensing agreements between the library and the full-text provider(s).

Outside Tool accounts are only issued to libraries. Outside Tool accounts are not created for test or trial purposes.

Setting Up Links to Library Holdings

For your library patrons to link directly from PubMed citations to your library's link resolver, you library would need to register for the Outside Tool service.

Outside Tool allows an institution to place a link on every PubMed record. Outside tool links point to the link resolver offered by a library for their users. For complete information about implementing an Outside Tool, please see the [Outside Tool](#) section of this manual.

PubMed and OpenURL-based Services

Section contents:

- About PubMed & OpenURL based Services
- Implementing Link Resolver Software in PubMed
- Evaluating Your Link Resolver

About PubMed & OpenURL based Services

OpenURL is a syntax for packaging metadata and identifiers describing information objects and for pointing to a user-specific appropriate copy of the object. The syntax has been accepted as a [NISO standard](#).

PubMed supports library link resolver software that use OpenURL syntax through [Outside Tool](#). Outside Tool allows libraries to place a link to their link resolver software on all PubMed records. If your library has implemented a link resolver, see the section [Evaluate your Link Resolver](#) to see whether it qualifies for the Outside Tool service.

Implementing Link Resolver Software in PubMed

Fully implemented link resolver software can be registered with NCBI to provide a link from the Abstract display of PubMed records. Your library's link resolver can be implemented as an [Outside Tool](#).

Outside Tool does not differentiate between online holdings, print holdings, or items that will have to be ordered from another institution. Outside Tool does not allow users to limit a search to library holdings or to display library holdings as a filter in the search result.

Evaluating Your Link Resolver

To register a link resolver for Outside Tool, we require the service to provide functional links to a landing page with the following qualified resources. This requirement allows us to best serve the PubMed user community, by avoiding "blind" links that do not provide useful and specific information for each PubMed record.

Qualified resources are:

- Full-text: The link should lead directly to the article level for the online full text, not the table of contents or the journal homepage.
- Library holdings via the local OPAC: The link should lead directly to the OPAC Holdings display or to the corresponding bibliographic record with holdings/location information displayed. The link should not lead to a general catalog or search page.
- Local document delivery service: The link should produce a form with citation information already populated for the user. This is a requirement for Outside tool implementation. Due to the scope of PubMed, it is unlikely that any single library will be able to provide electronic holdings for every citation in PubMed. A link to a local ILL service must be available to provide users a means to obtain the full text for articles the library does not hold.
- Citation style information.

In order to best serve all users and expedite processing, libraries requesting Outside Tool must provide a **unique base URL** that identifies their link resolver. Outside Tool requests that list a base URL already registered will not be assigned a new Outside Tool account. Instead, the existing link resolver with the same base URL should be used.

To determine whether your link resolver software meets the qualifications for implementation as an [Outside Tool](#), construct a URL to your link resolver and retrieve the PubMed records listed below.

To construct the URL to your link resolver, combine the base URL of your service with a PMID:

Example
Base URL: https://baseURL/OpenURL_local
Tail: ?sid=Entrez:PubMed&id=pmid:
PMID: 12345678
Resulting URL: https://baseURL/OpenURL_local?sid=Entrez:PubMed&id=pmid:12345678

Please test all of the following PMIDs to verify that your service is working correctly. Your link resolver **MUST** provide at least two qualified resources for each PMID tested.

PMIDs for testing

18984876

20042755

14316043

15390390

12337850

12076440

12259237

All link resolvers must be implemented at the library's site before a registration request is submitted. If your link resolver cannot provide two qualified resources (ILL requirement + other from list above) for each PMID tested, it cannot be implemented as an Outside Tool.

Activating Library Icons in PubMed

Library icons may be activated in PubMed: through a special URL to access PubMed, by using a shared My NCBI account, or by signing in to My NCBI.

Displaying Library Icons through a special URL to access PubMed

To display a library's Outside Tool icon through a simple link to PubMed, use the following URL:

<https://pubmed.ncbi.nlm.nih.gov?otool=OutsideTool>

Replace *OutsideTool* with the Outside Tool username assigned by NCBI.

To display up to five Outside Tool icons through a simple link to PubMed, use the following URL syntax:

<https://pubmed.ncbi.nlm.nih.gov?otool=OutsideTool1,OutsideTool2,OutsideTool3,OutsideTool4,OutsideTool5>

Replace each *OutsideTool* entry in the URL above with the Outside Tool username assigned by NCBI.

Displaying Library Icons using a shared My NCBI account

My NCBI accounts can be configured so that database filter selections, [Outside Tool](#) selections, and highlighting selections can be shared by multiple users. Outside Tool icons can be selected in My NCBI and activated using a special URL. To do this, please follow the instructions in the [Sharing My NCBI Account Settings](#) section of this manual.

Displaying Library Icons in My NCBI

Outside tool icons can be selected in My NCBI and displayed while the user is signed in to their My NCBI account. [See PubMed Preferences – Outside Tool](#).

To display icons without signing into My NCBI, set up a [Sharing My NCBI Account Settings](#) for your patrons.

Localizing PubMed for Your Users

In addition to displaying library icons via Outside Tool in PubMed, there are a variety of ways to customize the PubMed display, allowing users to link directly from PubMed to library services and other resources. This section provides information on:

- About Cookies and Special URLs
- Sharing My NCBI Account Settings
- Clearing Settings Using a Special URL

About Cookies and Special URLs

Many of the features used to create a localized PubMed environment use “**special URLs**”. When a user enters PubMed through a **special URL**, a **cookie** is placed in the workstation that instructs PubMed to set the preferences indicated by the URL. To use **special URLs**, the workstation must be able to accept cookies.

Cookies will expire after 8 hours of inactivity. At this time, the PubMed options will be reset to the default settings. To reactivate your preferences, the user must enter PubMed through the **special URL** again. You can set preferences that will not time out on a workstation by signing the workstation in to My NCBI and selecting **Keep me signed in**.

Sharing My NCBI Account Settings

My NCBI accounts can be configured so that Filter selections, Outside Tool, and highlighting selections can be shared by multiple users.

To share account settings:

1. [Register](#) for a My NCBI account that will be used to share settings with patrons.
2. Sign in to the account and click **NCBI Site Preferences** to select the services you want for your library’s My NCBI account. Under **PubMed Preferences**:
 - a. To select Filters, click **PubMed Filters and Icons**. On the resulting page search select a popular filter or create a custom filter.
 - b. To select an Outside Tool, click **Outside Tool**. On the next page, select the checkbox next to the desired libraries. You may select up to five libraries.
 - c. To select highlighting preferences, click the link **Highlighting** under **Common Preferences**. Select the radio button next to the desired color and click “Save”
3. To select which services to share click the links **NCBI Site Preferences** and click the **Shared Settings** link under Common Preferences. On the resulting page, click the check boxes next to the services you would like to share. Only the settings for a service where the **Share Selection** box is checked will be shared.

After selecting the features you want to share, use the following special URL to activate the settings:

PubMed:

`https://pubmed.ncbi.nlm.nih.gov?myncbishare=MyNCBIusername`

Settings activated using a shared My NCBI account URL will time out after 8 hours of inactivity.

Clearing Settings Using a Special URL

To clear LinkOut settings activated using a special URL and return to the default PubMed display, access PubMed using the following URLs:

To clear the Outside Tool icon:

https://pubmed.ncbi.nlm.nih.gov?otool=__reset

To clear the myncbishare setting:

https://pubmed.ncbi.nlm.nih.gov?myncbishare=__reset

In the above URLs, there are two underscores (_) preceding **reset**.