

Is one stop shopping all we dreamed it  
would be?

## Usability and the Single Search Interface



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Memorial University Libraries

APLA 2006  
Fredericton, New Brunswick

# Introduction

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- What is single search?
- About usability testing
- The results
- What is next?

# Federated Searching at Memorial

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- SingleSearch (one interface...many resources)
- Resolver (links to our full-text & holdings)
- RELAIS (document delivery)

# One interface...

Memorial Sirsi Single Search - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address <http://asin1.its.unb.ca:8000/muse/servlet/MusePeer> Go Links >>

Memorial University Libraries [Home](#)

Feedback [go](#)

Quick Search Advanced Search Feedback Help/FAQ Logout

Quick Search

Search for:  As:   Switch to:

[Options](#)

Select by group or scroll down to select by individual resource:

<input type="checkbox"/> Arts and Music	<input type="checkbox"/> Environment and Geography	<input type="checkbox"/> Ocean Sciences and Technology
<input type="checkbox"/> Biology	<input type="checkbox"/> Folklore	<input type="checkbox"/> Physics
<input type="checkbox"/> Business and Economics	<input checked="" type="checkbox"/> Health Sciences	<input type="checkbox"/> Political Science
<input type="checkbox"/> Canada	<input type="checkbox"/> History and Classics	<input type="checkbox"/> Psychology
<input type="checkbox"/> Chemistry and Biochemistry	<input type="checkbox"/> Kinesiology and Recreation	<input type="checkbox"/> Religious Studies and Philosophy
<input type="checkbox"/> Earth Sciences	<input type="checkbox"/> Language and Linguistics	<input type="checkbox"/> Social Work
<input type="checkbox"/> Education	<input type="checkbox"/> Library Catalogues	<input type="checkbox"/> Sociology and Anthropology
<input type="checkbox"/> Engineering and Computer Science	<input type="checkbox"/> Mathematics and Statistics	<input type="checkbox"/> All Subjects
<input type="checkbox"/> English & World Literature	<input type="checkbox"/> My Catalogue	
	<input type="checkbox"/> Newfoundland and Labrador	

Internet

...for many sources...

File Edit View Favorites Tools Help

Address <http://asin1.its.unb.ca:8000/muse/servlet/MusePeer>

**Memorial University Libraries** Home

Feedback go

Quick Search Advanced Search Feedback Help/FAQ Logout

**Modify Your Search:**  
celiac  
As  
Keyword  
Search  
Options Change Sources

**Show Search Details**  
Sort Title List:  
Fastest First

Email Marked Titles  
Keep Marked Titles  
Delete Marked Titles

22 Started	Completed	Total Retrieved	Stop Search
		36324 454	

**All Retrieved Sources**

- Memorial University Libraries Catalogue | PubMed | Social Services Abstracts | Allied and Alternative Medicine (AMED) | Health Business Fulltext Elite | Psychology and Behavioral Sciences Collection | Social Work Abstracts Plus | PsycINFO | CINAHL | International Pharmaceutical Abstracts | Biomedical Reference Collection | Nursing and Allied Health Collection | Biological Abstracts | BioMed Central | STAT!Ref | MD Consult | Ovid Books | Ovid Journals | Database of Abstracts of Reviews of Effectiveness | Cochrane Database of Systematic Reviews | Cochrane Controlled Trials Register | CINAHL | PubMed

1: PubMed **More Information Get it @Memorial**

*Title:* How common is celiac disease?  
*Type:* Journal Article  
*ISSN:* 0741-6245 (Print)  
*Location:* United States  
*Source:* Mayo Clin Health Lett. 2006 Apr;24(4):8.

2: PubMed **More Information Get it @Memorial**

*Title:* Superior Mesenteric Artery Pseudoaneurysm Associated with Celiac Axis Occlusion Treated Using Endovascular Techniques.  
*Author:* Ray B  
*Author:* Kuhan G

Done Internet

# ...leading to full text...

The screenshot shows a web browser window with the address bar displaying `http://asin1.its.unb.ca:8000/muse/servlet/MusePeer`. The browser interface includes a menu bar (File, Edit, View, Favorites, Tools, Help) and a toolbar with icons for Back, Forward, Stop, Refresh, Home, Search, Favorites, and other functions. The main content area displays a list of search results, each with a checkbox, a BioMed Central logo, and a 'Full Text' link. The first result is circled in yellow.

*Author:* Herfarth KK  
*Author:* Abdollahi A  
*Author:* Buchler MW  
*Author:* Debus J  
*Type:* Study protocol  
*Source:* BMC Cancer 2005, 5:131 (11 October 2005)

**32: BioMed Central** **Full Text**

*Title:* Association study of functional genetic variants of innate immunity related genes in celiac disease  
*Author:* Rueda B  
*Author:* Zhernakova A  
*Author:* López-Nevot MA  
*Author:* Martín J  
*Author:* Koeleman BPC  
*Type:* Research article  
*Source:* BMC Medical Genetics 2005, 6:29 (3 August 2005)

**33: BioMed Central** **Full Text**

*Title:* Human genetics moves from clinic to bench - and back  
*Author:* Ogorelkova M  
*Author:* Estivill X  
*Type:* Meeting report  
*Source:* Genome Biology 2005, 6:343 (31 August 2005)

**34: BioMed Central** **Full Text**

*Title:* Persistence of Natural Killer (NK) cell lymphocytosis with hyposplenism without development of leukaemia  
*Author:* Khan S  
*Author:* Myers K  
*Type:* Case report  
*Source:* BMC Clinical Pathology 2005, 5:8 (7 September 2005)

**35: BioMed Central** **Full Text**

*Title:* Most nuclear systemic autoantigens are extremely disordered proteins: implications for the etiology of

# ...or to a check of our holdings...

Memorial Sirsi Single Search - Microsoft Internet Explorer

Address: <http://asin1.its.unb.ca:8000/muse/servlet/MusePeer#1146658303585>

**17: Biological Abstracts** [More Information](#) [Get it @Memorial](#)

*Title:* Intestinal B cell lymphoma associated with chronic hepatitis C and celiac disease  
*Author:* Coban,-Sahin  
*Author:* Palabiyikoglu,-Murat  
*Author:* Ensari,-Arzu  
*Author:* Idilman,-Ramazan  
*Author:* Koklu,-Seyfettin  
*Author:* Yolcu,-Omer-Faruk  
*Author:* Ormeci,-Necati  
*Source:* Digestive-Diseases-and-Sciences. 2005; 50(12): 2359-2361

**18: Biological Abstracts** [More Information](#) [Get it @Memorial](#)

*Title:* Liver dysfunction after a gluten-free diet in a patient with celiac disease: A new link  
*Author:* Selcuk,-Haldun  
*Author:* Kanbay,-Mehmet  
*Author:* Murat,-Korkmaz  
*Author:* Yilmaz,-Ugar  
*Source:* Digestive-Diseases-and-Sciences. 2006; 51(1): 213-214

**19: Biological Abstracts** [More Information](#) [Get it @Memorial](#)

*Title:* Differing clinical manifestations of celiac disease transmitted by bone marrow transplantation  
*Author:* Borgaonkar,-Mark-R  
*Author:* Duggan,-Peter-R  
*Author:* Adams,-Grenfell  
*Source:* Digestive-Diseases-and-Sciences. 2006; 51(1): 210-212


**20: Biological Abstracts** [More Information](#) [Get it @Memorial](#)

*Title:* Intestinal T cell responses to cereal proteins in celiac disease  
*Author:* Kilmartin,-C  
*Author:* Wieser,-H  
*Author:* Abuzakouk,-M  
*Author:* Kelly,-J  
*Author:* Jackson,-I

Error on page.

# ...Resolver links to online holdings...

http://mun-resolver.asin-risa.ca:8080 - Sirsi Resolver - Microsoft Internet Explorer



## Memorial University Libraries

Feedback [go](#)

Your article:  
Author: Selcuk,-Haldun ,  
Title: Liver dysfunction after a gluten-free diet in a patient with celiac disease: A new link?  
Journal title: Digestive-Diseases-and-Sciences  
Volume: 51 Issue: 1 Date: 2006 Pages: 213-214

### Digestive Diseases and Sciences

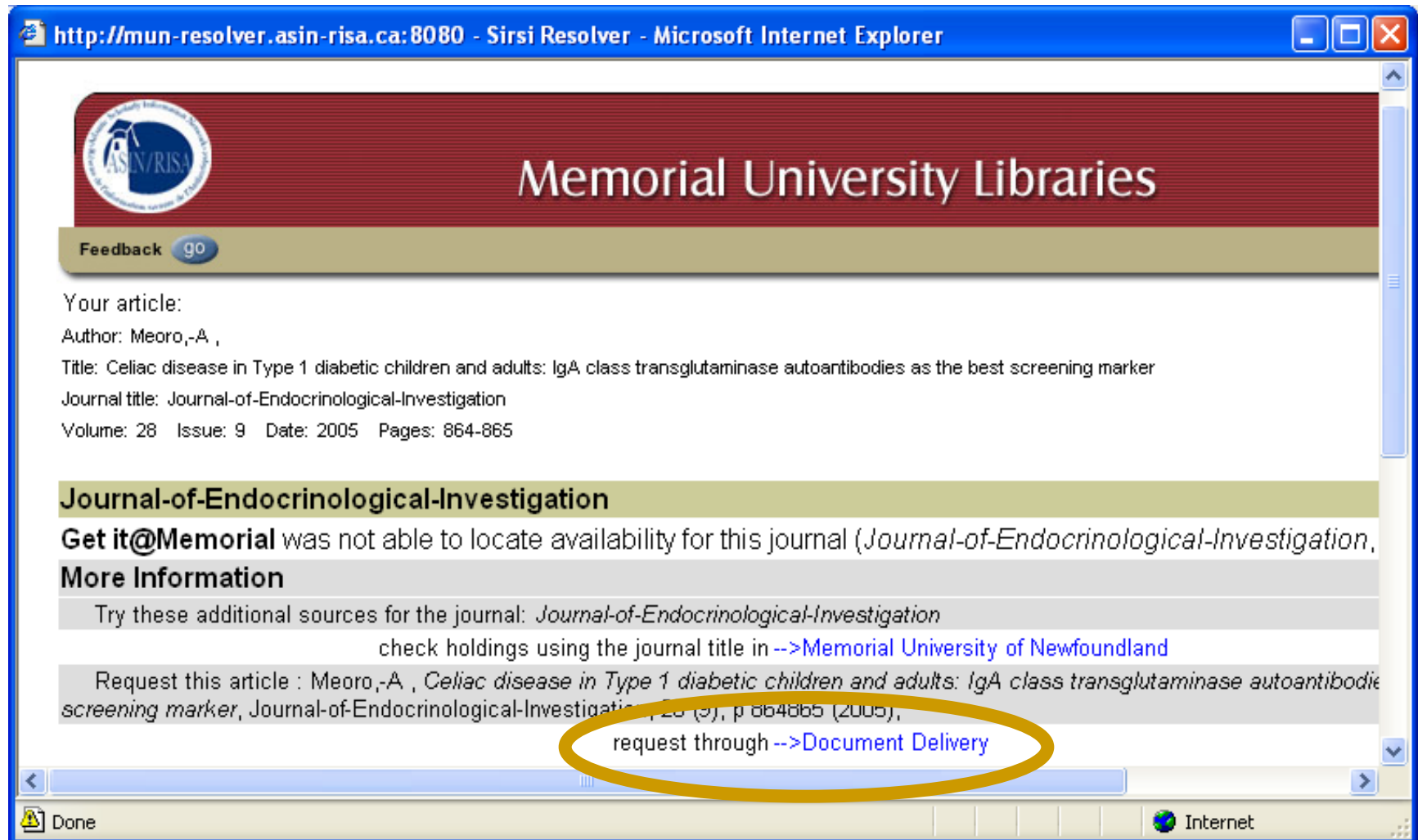
available in <a href="#">kluwer.kluwerOnline</a>	<a href="#">--&gt;Find Table of Contents</a>	<a href="#">--&gt;Find Article</a>	<b>Full Text:</b> 1997 - present	
available in <i>Kluwer Journals</i>	<a href="#">--&gt;Find Title</a>	<a href="#">--&gt;Find Table of Contents</a>	<a href="#">--&gt;Find Article</a>	<b>Full Text:</b> 1997 - January 14 2006

Check the complete holdings at Memorial for the journal: *Digestive-Diseases-and-Sciences*  
check holdings using the journal title in [-->Memorial University of Newfoundland](#)


Done Internet



# ...or to Relais (document delivery system)



http://mun-resolver.asin-risa.ca:8080 - Sirsi Resolver - Microsoft Internet Explorer

 Memorial University Libraries

Feedback [go](#)

Your article:  
Author: Meoro,-A ,  
Title: Celiac disease in Type 1 diabetic children and adults: IgA class transglutaminase autoantibodies as the best screening marker  
Journal title: Journal-of-Endocrinological-Investigation  
Volume: 28 Issue: 9 Date: 2005 Pages: 864-865


**Journal-of-Endocrinological-Investigation**

Get it@Memorial was not able to locate availability for this journal (*Journal-of-Endocrinological-Investigation*,

**More Information**

Try these additional sources for the journal: *Journal-of-Endocrinological-Investigation*  
check holdings using the journal title in -->[Memorial University of Newfoundland](#)

Request this article : Meoro,-A , *Celiac disease in Type 1 diabetic children and adults: IgA class transglutaminase autoantibodies screening marker*, *Journal-of-Endocrinological-Investigation*, 28 (9), p 864865 (2005),  
request through -->[Document Delivery](#)

Done  Internet

# What is usability?

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Help users overcome technology and make it easy and efficient and pleasant for them to use.

Jakob Nielsen  
Nielsen Norman Group

# Advantages of usability

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- Save the user time
- Save the organization time & money
- Counter the whims of the designer
- Good PR for the library
- Settles disagreements among design team members

# Test Audience

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- 12 participants from three MUN Libraries
- 5 males and 7 females
- 7 undergraduates, 3 graduate and 2 faculty
- Ages ranged from under 20 to 49

# Survey Tasks

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- Select categories & resources
- Find & check holdings for a book
- Find & check holdings for an article
- Navigate the Resolver

# Sample Questionnaire

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## Task IV: Reviewing Results

### 1. Look through the results and find a book.

A. In the first page of results, is there a book?

Yes       No       I don't know

B. If you answered YES to A, please note the following:

Title of Book: \_\_\_\_\_

Author of Book: \_\_\_\_\_

Name of library/libraries that own this book (write "do not know" if you are unsure of the answer):  
\_\_\_\_\_

(continue to next page)

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### 2. Look through the results and find an article.

A. In the first page of results, is there an article?

Yes       No       I don't know

B. If you answered YES to A, please note the following information:

Title of Article: \_\_\_\_\_

# Test Materials & Analysis

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## □ Test Materials

- Pre-test: demographic and library use data
- Survey: completed as participants completed the tasks
- Post-test" participant impressions of single search

## □ Analysis

- Quantitative data analyzed by SPSS
- Screen captures analyzed with a variety of tools (click path analysis)

# Results!

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- The expected...
- The unexpected...
- The bonus material



# Overall Performance

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# Difficulty understanding layout of search

## Select by group or scroll down to select by individual resource:

- Arts and Music
- Biology
- Business and Economics
- Canada
- Chemistry and Biochemistry
- Earth Sciences
- Education
- Engineering and Computer Science
- English & World Literature
- Environment and Geography
- Folklore
- Health Sciences
- History and Classics
- Kinesiology and Recreation
- Language and Linguistics
- Library Catalogues
- Mathematics and Statistics
- Memorial University Libraries Catalogue
- Newfoundland and Labrador
- News
- Ocean Sciences and Technology
- Physics
- Political Science
- Psychology
- Religious Studies and Philosophy
- Social Work
- Sociology and Anthropology
- All Subjects

## Select individual resources:

- Arts and Music
  - America: History and Life
  - Art Index
  - ArtCyclopedia
  - British Museum
  - Canadian Music Periodicals Index
  - CBCA Current Events
  - CBCA Reference
  - International Index to Music Periodicals
  - Wilson OmniFile Mega Edition
- Biology
- News
  - CBCA Current Events
  - CBCA Reference
  - GoogleNews
  - PAIS International
  - Regional Business News
  - Wilson OmniFile Mega Edition
- Ocean Sciences and Technology
  - Applied Science and Technology
  - ASFA: Aquatic Sciences and Fisheries Abstracts
  - EICompindex

# Participants selected many resources/ categories to search

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- For the question, "*Find information on the evolution of the human skeleton*" participants selected an average of 2.5 categories and 3.25 resources.

	Categories Selected	Resources Selected
<i>M</i>	2.0	3.25
<i>Mdn</i>	2.0	1
$\sigma$	1.348	4.845

- Equals approximately 25 databases being searched

# Lots of clicking & Lots of hovering

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- Participants were asked to select “Get It@Memorial” and navigate to Library holdings.
  - Took participants an average of 9 clicks to reach an article/holdings or to give up.
  - Participants who were successful took an average of 6 clicks.
- Participants were asked to choose an article citation and determine if it were available online or whether MUN owned it.
  - Took participants a average of 5 min. & 10 sec. to complete

# Basic search strategies

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- None of the participants used sophisticated search techniques like Boolean and/or truncation. I.e.,
  - “Find information on pollution and asthma”
    - pollution asthma (2)
    - asthma pollution
  - “Find information on elder abuse”
    - information on elder abuse
    - elder abuse (2)

# Users identified format with ease

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- 100% of participants were correctly able to identify whether there was a book and an article on their search results.
- Majority (75%,  $n=12$ ) selected an article where document type was in the Single Search display

## □ 31: Sociological Abstracts

*Title:* Families Seen Sightseeing: Performativity of Tourist Photography

*Author:* Larsen, Jonas

*Type:* Journal Article (aja)

*ISSN:* 1206-3312

*Source:* Space and Culture, 2005, 8, 4, Nov, 416-434

# Majority of users chose “more Information” as a route to holdings

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- 2 options in each citation:
  - More Information: Links to native interface
  - Get it@Memorial: Links to Resolver
- Question asked: “Is the article available online (full text)? If not...does any MUN Library have this article?”

# Expected Click Path

Question: Is the article available online?

1: PubMed More Information **Get it @Memorial**

Title: Institutional elder abuse.  
Type: Editorial  
ISSN: 1474-547X (Electronic)  
Location: England  
Source: Lancet. 2006 Feb 25;367(9511):624.

Your article:  
Title: Institutional elder abuse.  
Journal title: Lancet  
Volume: 367 Issue: 9511 Date: 2006 Pages: 624-624

**Lancet**

available from EBSCO Host in EBSCO Academic Search Premier -->Find Title -->Find Article  
available from EBSCO Host in EBSCO Biomedical Reference Collection: Comprehensive -->Find Title -->Find Article  
available from EBSCO Host in EBSCO Nursing & Allied Health Collection: Comprehensive -->Find Title -->Find Article  
available from EBSCO Host in EBSCO Psychology & Behavioral Sciences Collection -->Find Title -->Find Article  
available from Elsevier Science

Check the complete holdings at Memorial for the journal: Lancet  
check holdings using the journal number in -->Memorial University of Newfoundland  
check holdings using the journal title in -->Memorial University of Newfoundland

**EBSCO HOST** Research Databases

Back Print Email Save  
Formats PDF Full Text Citation

Title: Institutional elder abuse.  
Subject(s): AGE discrimination; OLDER people -- Long-term care; CA  
MEDICAL errors; MEDICATION errors; NURSING home p  
Source: Lancet, 2/25/2006, Vol. 367 Issue 9511, p624, 1/2p, 1c

```
graph TD; User((User)) --> PubMed[PubMed Record]; PubMed --> GetIt[Get it @Memorial]; PubMed --> User; PubMed --> EBSCO[EBSCO Search Results]; EBSCO --> FindArticle[Find Article]; EBSCO --> User; FindArticle --> EBSCOPage[EBSCO Article Page]; EBSCOPage --> PDF[PDF Full Text]; EBSCOPage --> User;
```



1: Lancet. 2006 Feb 25;367(9511):624.

ELSEVIER  
FULL-TEXT ARTICLE

MEMORIAL U.  
E-JOURNAL

MEMORIAL U.  
PRINT JOURNAL

NLHKIN  
E-Journal

# Institutional elder abuse

[No authors listed]

Question: Is the article available online?

Publication Types:

♦ [Editorial](#)

PMID: 16503441 [PubMed - indexed for MEDLINE]



1: PubMed  
Title: Institutional elder abuse.  
Type: Editorial  
ISSN: 1474-547X (Electronic)  
Location: England  
Source: Lancet. 2006 Feb 25;367(9511):624.

More Information Get it @Memorial



N = 8 (successful attempts)

N = 10 (unsuccessful attempts)



Back Print E-mail Save  
Formats: PDF Full Text Citation

Your article:  
Title: Institutional elder abuse.  
Journal title: Lancet  
Volume: 367 Issue: 9511 Date: 2006 Pages: 624-624

Lancet  
available from EBSCO Host in EBSCO Academic Search Premier  
available from EBSCO Host in EBSCO Biomedical Reference Collection: Comprehensive  
available from EBSCO Host in EBSCO Nursing & Allied Health Collection: Comprehensive  
available from EBSCO Host in EBSCO Psychology & Behavioral Sciences Collection  
available from Elsevier Science

-->Find Title -->Find Article  
-->Find Title -->Find Article

Search Results ISSN "0140-6736" search found 3 titles.  
Go Back Help Limit Search Previous Next Print / Email Library Ho

# 1	<b>Shelved by title</b>
<b>Details</b>	Lancet (North American ed.)
Keep <input type="checkbox"/>	6 copies available at Health Sciences Library, Internet Resources, and NL Health Libraries 6 items total in the libraries searched.
<b>Internet</b>	
# 2	<b>For Internet access see full display</b>
<b>Details</b>	Lancet (North American ed. : Online)
Keep <input checked="" type="checkbox"/>	1 copy available at Internet Resources in INTERNET 1 items total in the libraries searched.
<b>Internet</b>	

Check the complete holdings at Memorial for the journal: Lancet  
check holdings using the journal number in -->Memorial University of Newfoundland  
check holdings using the journal title in -->Memorial University of Newfoundland



# Bonus Material

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- Fascinating insight into how people deal with error messages (which abounded) and other browsing behaviours.
- Example

# Conclusions...thus far.

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1. Selection of resources to search needs to be simplified
2. Need to include format identifiers (icons/document type field) wherever possible
3. Need to clean up display to aid decision making
4. Need to promote “most efficient” path through the SingleSearch to the article

# What next?

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- Use the data to develop mocks of different layouts for focus group this summer
- Re-do study when Rooms Portal is implemented?

# Users get the last word...

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“It displayed a wide range of results with very little effort. Usually I would use google for research for an essay, but after seeing how easily and accurately this system finds and displays information I would rather use it.”