

A MANUAL FOR CATALOGING HISTORICAL MEDICAL ARTIFACTS USING OCLC AND THE MARC FORMAT

This manual was prepared as part of the Ohio Medical Artifact Cataloging (OHMAC) Project. This is a project of the Ohio Network of Medical History Collections, a consortium representing the historical collections of Ohio's seven academic health sciences libraries. From 1990 to 1992, this project was funded by the National Library of Medicine. From the Fall of 1992 until the Spring of 1993, the project was funded by organizations, corporations, and individuals. Since July 1, 1993, the project has been funded by the National Endowment for the Humanities, an independent federal agency.

Addendum:

In February, 1995, OCLC implemented the first phase of format integration. Format integration validates all data elements, formerly only valid in certain formats (for ex. books or serials formats), for all formats. For example, fields that were once only valid for use in the serials format may now be used in the audiovisual format and vice versa. Phase 1 completes changes to the variable fields only. It does not require any changes to descriptive cataloging policies or procedures. It affects only a few tagging conventions that apply to artifact cataloging. Format integration offers a valuable benefit to artifact catalogers by allowing the use of fields, previously only valid for use in other formats, but which may apply to object cataloging. Complete information is available in OCLC's Technical Bulletin number 206.

The field used by the OHMAC project that is most affected by Format integration is field 740, previously used for title added entries, allowing searching by alternate titles. Field 740 is now reserved for uncontrolled analytical title added entries. Therefore, it will not usually apply to artifact cataloging. Instead, field 246, previously used in the serials format for all types of title added entries, should be used for varying forms of the title such as alternate titles. Although field 740 has been replaced by field 246, the conventions for choosing alternate titles listed in this manual under the directions for the 740 field remain the same.

When using the 246 field however, there are some practical changes:

The first indicator should be 1. The second indicator is 3.

\$h [realia] should not be used in the 246 field.

A second change affects the 700 and 710 fields. In both of these fields, the second indicator values which were previously 1 should now be left blank.

Phase 1 of format integration completes changes to the variable fields only. It does not require any changes to descriptive cataloging policies or procedures.

Complete information on format integration is available in OCLC's Technical Bulletin number 206.

ERRATA

In field 520 the indicator values were omitted from the explanation. The first indicator should be 8. The second indicator is always blank.

All changes outlined above should be noted on the workform included in this manual as well as in the “Explanation of Fields” section.

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A BRIEF HISTORY OF THE OHIO MEDICAL ARTIFACT CATALOGING (OHMAC) PROJECT

The first steps that led to the current cataloging project were taken in 1985 in an effort to improve user access to historical medical artifacts at the Dittrick Museum of Medical History of the Cleveland Health Sciences Library (now the Dittrick Medical History Center and Museum of Case Western Reserve University). The initial goal was to make information in this collection more available to users of the library by interfiling catalog cards for artifacts with catalog cards for books. To achieve this end, it was necessary to convert the subject access system used for artifacts to the system used for books. This was accomplished with an eighteen month grant from the national Endowment for the Humanities in 1985-1986 during which time the Medical Subject Headings (MeSH) of the National Library of Medicine were applied to the Dittrick Museum's subject access catalog.

Because of the growing use of national online databases for cataloging books and other types of materials, a decision was made at the conclusion of the above work to study the possibility of cataloging the artifacts onto OCLC, the online bibliographic database used by the Cleveland Health Sciences Library. Since artifacts had rarely been cataloged onto OCLC, a study of the feasibility of doing so was begun.

In the meantime, the historical departments of each of Ohio's seven academic health sciences libraries had joined together in an informal consortium called the Ohio Network of Medical History Collections. The libraries are: the Cleveland Health Sciences Library of Case Western Reserve University and the Cleveland Medical Library Association, the Fordham Health Sciences Library of Wright State University, the John A. Prior Library of Ohio State University, the History of Osteopathic Medicine Museum and Alden Health Sciences Library at Ohio University, the Oliver Ocasek Regional Medical Information Center at the Northeastern Ohio Universities College of Medicine, the Medical Heritage Center at the University of Cincinnati Medical Center, and the Raymond H. Mulford Library of the Medical College of Ohio.

Each of these libraries has a collection of medical artifacts, the collections ranging in size from a few hundred objects to approximately 75,000 objects at the Dittrick Museum. In addition to the Dittrick Museum, the Fordham Health Sciences Library and the Medical Heritage Center at the University of Cincinnati had looked at the possibility of cataloging artifacts onto OCLC. Because of the significant interest in OCLC cataloging among network members and their general interest in providing access to their artifact collections, the network institutions decided to undertake the project as a group effort.

Over a period of several months, consortium members worked to determine which of the MARC fields were most appropriate to recording information about artifacts. Since there was no MARC format specifically for artifacts, the format for audio-visual materials was chosen as an appropriate one, and data fields were selected that made it possible to record information important to collections access. The outcome of this effort was the development of a cataloging protocol for artifacts.

Once the above was accomplished, funding was sought and a grant in the amount of \$142,961 for two years was awarded by the National Library of Medicine in 1990. The project began in November. As many as six catalogers worked on the project at a given time, assisted by graduate students who provided many hours of supplemental research time. Although a substantial amount of cataloging was done in the first year, much time was spent developing criteria and terminology for the description of instruments.

Through the first year of the project, cataloging efforts were focused on the collection at the Dittrick Museum where the largest and most diverse collection is and where the greatest number of reference materials are to be found. During this time, plans were made to begin work on the collections of other members of the consortium. During the second year, the collections from the Northeastern Ohio Universities College of Medicine and the Medical College at Toledo were cataloged and a start was made on the collection at Wright State University. A preliminary cataloging manual was completed in the second year.

Funding from the National Library of Medicine ended in November 1992. This necessitated a reduction in the size of the staff, but the project continued through funds contributed by the private sector. The continuation of the project for two more years at an increased staff level was assured with the award of a grant in the amount of \$199,616 by the National Endowment for the Humanities, an independent federal agency, effective July 1, 1993.

The OHMAC Project was under the direction of Patsy Gerstner, retired Chief Curator of the Historical Division of the Cleveland Health Sciences Libraries. Mary Ann Hoffman, former Special Collections Librarian at the Fordham Health Sciences Library, was co-director.

The following workform illustrates the catalog record for one object. Explanations of each field follow. When cataloging historical medical artifacts on OCLC each institution must strictly adhere to all current AACR2 cataloging rules, ISBD, and LC practice as required by OCLC.

Note: Refer to the OCLC Audiovisual Media Format and the AACR2 for more information on these fields and for other fields that can be used. The following are fields that the OHMAC project catalogers have found to be the most useful when cataloging medical artifacts. Also note that ISBD punctuation must be added to the OCLC record when it is input. It does not appear automatically.

CATALOGER: JLC

DATE: 6/14/92

Constant data name: CD

Entered: [system supplied]	Replaced: [system supplied]		
Type: r	Bib lvl: n	Source: d	Lang: N/A
Type mat: r	Enc lvl: I	Govt pub: --	Ctry: <u>MAU</u>
Int lvl:	Mod rec:	Tech: n	Leng: nnn
Accomp:	MEBE: 0	Dat tp: 7	Dates: <u>1925, 1949</u>
Desc: a	¶		

VARIABLE FIELDS:

035 \$a [system control number] 8036 (accession no.)

\$b [institution code] CHS (your three-letter OCLC symbol)

044 \$a [country of producer code when there is MORE THAN ONE country]

\$a ___ \$a ___ \$a ___

049 \$ \$a [holding code] XXXX (system supplies default code linked to authorization no.)
CHSM

099 \$a [local call no.] _____ (storage area & acc. no. & letter)
Blood Transfusion #a Apparatus #a 8036

245 00 \$a [name of the item (as supplied by the source indicated in the first 500 field)]
enclose in []'s [Scannell blood transfusion
apparatus]

\$ \$h [general material designation] [realia] (usually..., but see Manual)

\$b ["subtitle" of the item] _____

\$c [statement of responsibility] [Designed by John M. Scannell.]

260 \$a [place of manufacture] Needham, Mass. :

\$b [manufacturer] MacGregor Instrument Company,

\$c [date of manufacture] [ca. 1925-1949]

ADDITIONAL TAGS NOT INCLUDED ABOVE

___ \$a _____

300 8 \$a [number and name of physical units] 1 blood transfusion apparatus
\$b [other physical details] glass, nickel-plated brass, steel, rubber;
\$c [dimensions (height X width X depth -- in cm.)] _____
in case, 9.5 X 28 X 17 cm.

500 \$a [source of title in 245, e.g., "Title taken from instrument catalog,"]
Title taken from instrument catalog.

510 4 \$a [citation note (e.g., [name of "authority" catalog] \$c p.123, Fig. 8945)]
A.S. Aloe 1935 #c p. 226, fig. 59A832.

520 8 \$a [general note (i.e., information true about all examples of this artifact)]
Transfusion apparatus. Set includes: two glass syringes with distal finger ring and bayonet lock; syringes connect to nickel-plated brass three-way valve; valve has small curved lever... Syringes marked: "VIM-SCANNELL SYRINGE -- FOR BLOOD TRANSFUSION".

541 [source of acquisition, i.e., donor or purchase information]

\$a [source of acquisition] Dr. Ben O'Hara

\$b [address] _____

\$c [method of acquisition, e.g., gift, purchase, etc.] gift

\$d [year of acquisition] 1934

\$e [accession number] 8036

\$f [owner (if different from \$a above)] Dr. Joseph O'Hara

\$h [purchase price] _____

590 \$a [local note (i.e., information or description that applies only to this "copy" of the artifact)]

Missing one syringe.

650 2 \$a [MeSH main heading]
 \$x [MeSH subheading]
 \$y [period subdivision, e.g., 19th century]
 \$z [MeSH geographic heading (from Appendix B)]

650 2 \$a Blood Transfusion \$x instrumentation. \$y _____ \$z _____
 650 2 \$a _____ \$x _____ \$y _____ \$z _____
 650 2 \$a _____ \$x _____ \$y _____ \$z _____
 650 2 \$a _____ \$x _____ \$y _____ \$z _____
 650 2 \$a _____ \$x _____ \$y _____ \$z _____

650 4 \$a [subject heading (from medical museums' authority list)]
 \$x [subdivision]
 \$y [period subdivision, e.g., 19th century]
 \$z [place subdivision]

650 4 \$a Blood Transfusion \$x apparatus. \$y _____ \$z _____
 650 4 \$a _____ \$x _____ \$y _____ \$z _____
 650 4 \$a _____ \$x _____ \$y _____ \$z _____
 650 4 \$a _____ \$x _____ \$y _____ \$z _____
 650 4 \$a _____ \$x _____ \$y _____ \$z _____

690 \$a [local subject heading, i.e., used ONLY by this institution]

690 \$a _____
 690 \$a _____

700 L \$a [personal name added entry] Scannell, John M., #e designer.

710 ² \$a [corporate name added entry] Mac Gregor Instrument Company.

246 13
 740 ²

\$a [alternate name of item named in 245 (e.g., "generic" name vs. eponymous name)]

"Vin" Scannell syringe for blood transfusion.

773 0 [host item entry (e.g., set or collection to which the item described in this record belongs)] (See Manual for additional subfield definitions.)

\$7 N

\$t [title (from 245 of "master record" for the set or collection)]

ADDITIONAL TAGS NOT INCLUDED ABOVE

740 01 \$a Blood transfusion apparatus.
 949 1 \$a #2 099 #1 amus #2 0 #1 35 #a Blood
 --- \$a transfusion : Apparatus : 8036 #1 391564671
 --- \$a _____
 --- \$a _____

Explanation of fields:

Fixed Fields

Type identifies the “type” of item being cataloged and is almost always “r”. (See Audiovisual Media Format for other possibilities.)

Type mat indicates the type of material and should correspond to the general material designation in the 245 field (usually realia) and to the type of record code mentioned above. Thus the type is usually “r”.

Int lvl is used to indicate the intellectual level of the work. For medical artifacts this field is left blank as it is not applicable.

The **accomp code** is usually left blank, but when accompanying written information is included with the instrument the code used should be “z”.

Desc indicates the form of descriptive cataloging used in the record. It is expected that all new records entered into OCLC will be cataloged according to AACR2 and so the code used is “a”.

The **biblvl** is usually “m” but must be “a” when a 773 field is used to describe a set. (See instructions for sets later in the manual.)

Enc lvl is normally “I” but may be “K” when cataloging is incomplete. For instance, if no source can be found for an eponymic name or if the instrument is incomplete and difficult to describe, encoding level K may be used. Encoding level “K” will allow other institutions to complete the cataloging if a source is found or if they have a more complete example of the instrument.

Mod rec contains a one-character code that indicates whether bibliographic data were modified for entry into machine-readable form. It is always left blank when cataloging medical artifacts.

Source identifies the agency responsible for the cataloging of the item. It will always be “d” for non-LC (not Library of Congress) cataloging.

Govt pub contains a one-character code that indicates whether the item is a government publication. It is always left blank when cataloging medical artifacts.

Tech is used for cataloging motion pictures and video recordings. For medical artifacts the correct entry is “n” for not applicable.

Dat tp is usually “q” (questionable) but may be “s” (single) in some special circumstances. For example, copyrighted material only has a single date – in this case date type should be “s”. If an object dates from before A.D. 1, then the date type is “b”. In this case the dates in the fixed field are left blank. (Note: If “b” is used in date type, then a 046 field is required.)

Lang is usually “N/A” but a specific language code (see OCLC Audiovisual Media Format and OCLC MARC Code Lists) should be used if there is any accompanying literature with the instrument or if there is extensive printed information on the instrument or instrument box.

The **ctry** field contains the two- or three-character code that represents the country of manufacture. (See OCLC Audiovisual Media Format and OCLC MARC Code Lists for more information and the current list of country codes.)

Leng also refers to motion pictures and since it is not applicable the code “nnn” is used for this field.

Dates should generally range from the beginning of one decade to the end of a decade (ex. 1910-1949, NOT 1915-1940) unless there is a reason to begin or end with a more specific date (for ex. patent dates, manufacturer’s dates). Remember that the range of dates assigned to the instrument should encompass not just the instrument in hand, but all instruments of the same style, manufacturer and materials (see suggestions for establishing approximate dates of medical artifacts).

If the date is open ended (e.g. the instrument is still being manufactured today, enter 9999 as the second date in the fixed field).

For information on all of the fixed fields, catalogers should refer to OCLC Audiovisual Media Format.

Variable Fields

035

\$a Accession number of the instrument.

\$b OCLC symbol of the institution assigning accession number.

Notes: In some cases you may have several identical objects, each with a different accession number. If there are fewer than four accession number, make a separate 035 field for each one. If there are four or more, use ‘bunch cataloging’ (described later in them manual).

040

This field identifies the institution responsible for creating the cataloging record by its OCLC symbol. Sub field \$c identifies the institution responsible for inputting the record by its OCLC symbol. Sub field \$d is used to identify an institution that modified the record in some way.

041

This field can be added if more than one language is associated with the object. It is only used if printed material accompanies the object or if extensive directions etc. are printed on the object

itself. The languages are represented in this field by three-letter codes (see MARC Code Lists) and are entered in lowercase letters with no intervening spaces or punctuation. The languages are listed in order of their predominance, however, if no language is predominant, the languages should be entered in alphabetical order. If the text is printed directly on the instrument, the first subfield is used. If the text appears in accompanying material, however, the language codes should be entered into subfield \$g.

Examples: If a colorimeter had directions printed on the instrument itself in English and in French, the 041 field would read: engfre.

If a hemoglobinometer has a direction booklet printed in English and German, the 041 field would read: \$g engger.

If text on the instrument appears in English, but the accompanying material is printed in German, the 041 field would read: eng \$g ger.

044

This field should be used only when an instrument had parts that are made in different countries. The code for the country where the instrument was assembled should appear in the fixed field and is repeated in the first subfield of the 044 field. Each additional country of manufacture is entered in a separate subfield \$a (refer to OCLC MARC Code Lists for country codes).

046

This field can be added when the dates in the fixed field have been left blank because a B.C. date is involved. When field 046 is used, use code “b” in Dat tp and leave both dates in the dates element blank.

Sub field \$a indicates the type of date given. In the case of a B.C. date the code used is usually “q” (for questionable). Occasionally, however, other codes may be used. (For example when cataloging a replica of an ancient Roman instrument, the code would be “r”. (See cataloging replicas later in the manual.)

\$b Contains the first part of the range of the B.C. dates.

\$d Contains the end date in a range of B.C. dates.

\$c and \$e contain A.D. dates if these are part of the date range or if a replica is being cataloged.

049

This field contains a system supplied code linked to your authorization number. However, this field can be used by individual institutions for textual information that will further specify locations within the library. For ex. some institutions may enter [Spec. Coll.] to designate that the object is held in the Special Collections Dept. Other possibilities are [Rare][Books], [Ref.],

etc. The possibilities for this field are limited to those specified in each institution's profile. This field can also be used to record copy information or other local processing data. See Audiovisual Media Format for more details on the use of this field.

099

This field is for your local call number. This field may be used to record any local storage system used to retrieve a particular item. Some members of the Ohio Consortium use a system or storage based on MeSH and the function of the instrument, followed by the accession number. This system has proved to be a good one for object retrieval. However, the local call number may vary from institution to institution. Some institutions may only use a catalog number. Others may use a drawer or cabinet number. Some libraries may use call numbers similar to those used for books. The purpose of the number is object retrieval and each institution must devise its own system that will best enable it to retrieve a particular object when needed.

245

This field is the title field and contains the name of the object being cataloged as well as information about its designer. The title is given in lower case except for the first word or proper name (e.g. Graves' vaginal speculum). See AACR2 for additional information regarding the proper form of the title.

The first indicator in this field shows whether the title is to be traced (see OCLC Audiovisual Media Format): 0 for no title added entry, and 1 for title added entry and tracing. The second indicator shows the number of characters to be ignored in filing or indexing when the title begins with an article. This is the number of spaces before the first word that is indexed (ex. if the title is The Spencer Hemacytometer, the second indicator would be 4).

Note: Any information in the 245 field not printed on the instrument, accompanying information, or container should be enclosed by brackets.

\$a Records the name of the item as taken from the source listed in the 500 source of title field. The title may be printed directly on the instrument or taken from the box, an instrument catalog, or other source.

The project catalogers have developed a list of sources, including instrument catalogs, that are useful in identifying instruments and establishing titles. (The list is included in this manual.) Other instrument catalogs can also be used, as well as articles written about the instrument or promotional materials distributed by the manufacturer. If no source can be found, the cataloger may assign a generic name (for ex. Binaural stethoscope). Sometimes, an instrument may very closely resemble a particular instrument, but is not identical to it. In this case, it is acceptable to use “___-type” in the 245 field (for example Graves'-type vaginal speculum).

Names should be listed in natural word order, i.e. obstetrical forceps, NOT forceps, obstetrical.

\$h Records the general material designation (a generic term describing the type of item being cataloged). In most cases artifacts take realia as the general material designation. (See OCLC Audiovisual Media Format Appendix B for a list of other material designations).

Note: The general material designation should be enclosed in brackets.

\$b Remainder of title. This subfield is used for other title information including subtitles, parallel titles, etc. It is not used often in artifact cataloging, but occasionally a box or accompanying instrument material may include a subtitle. One possible example of this situation is a DeVilbiss atomizer, model no. 15. The title proper is “DeVilbiss atomizer.” Subfield \$b could be used to record the phrase “no. 15.”

\$c Statement of responsibility. Include the name of the designer or inventor of the instrument if known. Ordinarily the phrase used is: “[Designed by name of designer.]” If the title is followed by “-type” (see above) then the phrase used is: “Similar to design by name of designer.” According to ISBD, the statement of responsibility is preceded by a space / space. The information in subfield \$c is enclosed in brackets unless it is taken from the instrument, case, or accompanying material. The phrasing may also differ if it is taken directly from one of these chief sources of information. Occasionally an instrument will be marked “created by _____.” or some other phrase. In this case the phrase exactly as it appears on the chief source of information should be used.

246

\$a Alternate title. This field is for title added entries and allows searching by alternate titles. The field is repeatable and often several 246 fields are necessary. Begin with the generic instrument name, if you have used an eponymic name in the 245 title field. This is followed by any alternative titles that may aid in searching, including shortened versions of the 245 title if it is conceivable that someone may search under it. If a generic term is used in the 245 field, it should not be repeated here. In all instances, designer’s name followed by the generic name should appear in either the 245 or 246 field. (For ex. if Sims’ speculum appears in the 245 field, the 246 would contain Sims’ vaginal speculum. A second 246 field would contain Vaginal speculum.)

The first indicator should be 1. The second indicator should be 3.

\$h [realia] should not be used in the 246 field.

260

\$a Place of manufacture. Again, this should be enclosed in brackets unless taken from the instrument itself. See AACR2 for the proper form for place names. Generally, if the name of a city is unique or well known, only the city name is provided. If the state or country is necessary to identify the city, an abbreviated form may be used. See AACR2 for accepted abbreviations.

If the name of the city of manufacture is abbreviated on the chief source of information, supply the rest of the name. For ex. Phila.[delphia].

If the name of the city appears on the chief source of information in a language other than English, transcribe it exactly as it appears. For ex. if an instrument is marked Wien, do not use Vienna. The cataloger may, however, follow the name with a translation (enclosed in brackets) if the place name is not common. If the cataloger is supplying the place of manufacturer, i.e. the instrument is marked with the name of the manufacturer but not the place, use the English form of the name.

\$b Name of Manufacturer. This is also enclosed in brackets unless taken directly from instrument. A brief form of the name is used (See AACR2 cataloging rules). The information in **\$b** should be preceded by a space colon space.

If only the initials of the company or only a trademark appear on the chief source of information, enclose the entire name of the manufacturer in brackets. (For ex. if an instrument is marked C & S, use [Codman & Shurtleff]).

\$c Date of manufacture. Identical to estimated range indicated in the fixed field. Appears as: [ca. date-date]. Information in **\$c** should be preceded by a comma. If the date is open-ended, e.g. the item may still be manufactured today, leave the second part of the date blank. (For ex. [1980-]) Do not use 9999 in this field.

If a distributor is known, use a second **\$a** as place of distribution and a second **\$b** with “[distributed by]” preceding name of distributor. In this case the second **\$a** is preceded by a space semicolon space. If only a distributor is known (manufacturer is unknown) proceed as directed above, but distributor information will appear in the first **\$a** and **\$b** subfields.

If both manufacturer and distributor are unknown use S.I. (Latin *sine loco* = without place) and s.n. (Latin *sine nomine* = without name) in **\$a** and **\$b** subfields. The 260 field would then appear: [S.I. : **\$b** s.n., **\$c** ca. date-date]

If only the place of manufacture is known: Germany : [**\$b** s.n., **\$c** ca. date-date]

If only the name of manufacturer is known: [S.I.] : **\$b** National Surgical Instruments, **\$c** [ca. date-date].

If an instrument is marked with only the place of manufacture and the name of the distributor, but *not* with the name of the manufacturer, (for ex. an instrument marked: Betz – Germany), put the distributor information in the first two subfields. The Betz example would thus appear: [Hammond, Ind. : **\$b** distributed by] Betz ; **\$a** Germany : **\$b** [s.n., **\$c** ca. date-date].

300

\$a Records the common name of the artifact and, if applicable, the number of items in a set. When cataloging multiple, identical instruments with different accession numbers, use “1” as the

number of physical units (you are only describing one instrument). When cataloging a set of identical instruments, the number of physical units appears as: 1 set urethral bougies (6 bougies).

\$b Describes the materials from which the object is made. Be as specific as possible and include all materials that will appear in the 520 description note. This information should be preceded by a space colon space.

Note: Some discretion is required on the part of the cataloger as to significant materials to be included here. A cardboard storage box or printed instructions on paper, for example, do not necessitate including the materials “cardboard” or “paper” in the 300 \$b, though they may be noted as such in the 520 description note.

Note: Do not include colors in this field. Manufacturers have sometime issued identical instruments in different colored cases or with different colored tubes.

\$c Give the dimensions of the artifact. All measurements are metric, usually in centimeters. If the measurement is of the diameter, include “(dia.)” after the measurement. As a rule, dimensions given should serve as an indication of the amount of space needed to store an object. This information should be preceded by a space semicolon space.

500 source of title

This is the source of the title that appears in the 245 field. This field is used only if the title is taken from something other than the instrument itself. If the title is taken from the instrument this field is not necessary.

Standard phrases for this field include:

Title taken from instrument catalog.

Title taken from reference literature.

Title taken from journal article.

Title taken from accompanying instrument literature.

Title taken from instrument case.

Title taken from promotional material.

Title taken from instrument box.

Title supplied by cataloger.

Note: The phrase “Title supplied by cataloger.” is used when the cataloger cannot find a source for the title and has supplied a generic title to the instrument (for ex. Binaural stethoscope). This phrase must also be used if _____-type has been used in the 245 field.

The 500 field is a general note field and can be used for other notes that pertain to all examples of an instrument.

A second 500 note can be added to warn others that the cataloging in this particular record is based on an incomplete instrument. (If no source can be found to describe the perfect instrument.) The phrase used in this case is: Description base on incomplete instrument. If this

phrase is used, the end lvl in the fixed field should be K so that the record can be completed by another institution that has the complete instrument.

510

This field gives the full bibliographic citation for the source of the title and description, e.g. instrument maker's catalog, journal article, or other reference source. The full bibliographic citation is followed by page and figure numbers:

For exact picture reference, use:

\$c p.____, fig.____.

If you have used a "type" in the 245 field and have reference that shows a similar instrument, use:

\$c similar to p.____, fig.____.

The first indicator shows whether \$c is present showing the exact location of the citation in the cited work. If \$c is not used the first indicator should be 3, if \$c is used then the first indicator is 4 (see OCLC Audiovisual Media Format).

The second indicator is always blank.

Note: This field may be repeated to reference the assignment of different eponymic names as alternate titles (i.e. the same instrument is referred to by different names in different catalogs) or to explain the assignment of a wide or unusual date range (for example a nickel-plated brass Sims' vaginal speculum has a date range from 1855 until 1939. The cataloger might want to include a very early source as well as a source from the 1930's).

520 description notes

This field contains an actual physical description of the object. This description is sufficiently detailed to allow other catalogers to determine if the object they are cataloging is identical to the one cataloged by another institution. With this idea in mind, it must be noted that all descriptions of a particular type of instrument should, if possible, follow a similar pattern. The cataloger should attempt to describe consistently the component elements of the object type while at the same time detailing those attributes which distinguish eponymic variations.

The first indicator should be 8. The second indicator is always blank.

The 520 description note is always of a complete, standard object unless a description of a complete, standard object is unavailable and all reasonable possibilities of locating such a description have been exhausted. Then, and only then, should the incomplete object in hand be described. In this instance, a second 500 note is added that states: "Description based on an incomplete instrument." Or "Description based on object in the _____ Collection."

The complete description may come from one or a combination of sources: The complete object in hand, instrument makers' catalogs, accompanying written material, and articles about the particular artifact. (Articles in the medical literature that describe its use or that were written at the time of its introduction are especially helpful).

Every description begins with the generic name of the object (i.e. Binaural stethoscope). This name should be exactly as the generic name appears in the 300 field (without the number of physical units) and is followed by the physical description of the complete, standard, instrument. The following is an example of such a description:

Sphygmomanometer. Mahogany case, with lid hinged at one end, is integral part of instrument; lid houses two-piece glass vertical tube mercury column that is hinged at middle and has a nickel-plated metal spring activated automatic valve to permit folding and retention of mercury; mercury column in topped by a nickel-plated metal screw cap; a hinged, adjustable bakelite scale attached to lid of case is graduated from 0 to 270 mm Hg. Also included: glass mercury reservoir with single nipple for rubber tubing, rubber inflation bag and inflating bulb. Lid interior marked: "Pilling -- folding -- mercurial -- apparatus -- Pat.Apr.8.1909 -- and Pat.Dec.1.1914 -- G.P. Pilling & Son Co. -- Philadelphia, Pa."; also marked with Pilling trademark. (Quotation marks used in this illustration are part of the record).

Punctuation: Generally descriptive phrases are divided by semicolons, as long as they describe the same instrument or a part of an instrument that has integrity by itself. If part of the instrument can exist as a independent unit apart from the whole, that part is followed by a period. (An example of this is a dropping pipette included with a hemoglobinometer.) Instrument cases are separated by a period unless they are integral to the instrument as above. (See also conventions for some cataloging situations.)

Manufacturer's markings: Certain markings are not put in the 520 description note field. These markings include size numbers, serial numbers, lot numbers, etc., that are assigned to individual instruments, rather than to all instruments of this type. These markings should be noted in a 590 local note field as they apply only to that particular example of this type of instrument.

GUIDELINES FOR MARKINGS

The instrument markings are placed at the end of the description. The wording for describing markings is a follows: ...set screw controls dilatation; marked: "Pilling -- Philadelphia". Markings should be copied exactly as they appear on the instrument (i.e. all upper case, all lower case, or a mixture of both). All markings should be in quotations.

If markings are in script, the semicolon is followed by: marked in script: "Penn".

Each line of the marking is separated from preceding lines by a space, a double dash [--], and another space. For example: ...set screw secures dilatation; marked : "G.P. PILLING & SON -- PHILADELPHIA" (quotation marks are part of the record).

If the instrument is marked with a trademark, the semicolon is followed by: ; marked with Kny-Scheerer trademark.

541

The 541 field is the source of acquisition and includes information on the donor, owner, or purchase information.

\$a source of acquisition

\$b address of donor

\$c method of acquisition, e.g. gift, bequest, loan, purchase

\$d year of acquisition

\$e accession number

\$f owner, if different from \$a

\$h purchase price

The 541 is not part of the public record on OCLC, although it may appear on some local systems. Each institution should decide if they want to make this information available. If they do not, then this information should not be entered on OCLC.

590

This field is for notes that are deemed inappropriate for the master record, usually because they pertain only to one particular instrument and not to all instruments of this type and manufacture. Pairing, size, and serial numbers are entered here, along with other notes of local historical significance, indications of the condition of the object, etc.

Currently the 590 is not visible as part of the master record on OCLC, but is accessible on many local networks.

Note: Other 5XX fields are available and may be used for the cataloging of medical artifacts. See OCLC Audiovisual Media Format for information on all of the 5XX fields available.

650

This field is for topical subject headings. The National Library of Medicine's Alphabetical Annotated List (MeSH), is the only appropriate list of subject headings for medical artifacts. Do be as specific as possible, avoiding subject headings that are so general as to be meaningless (for ex. the heading **SURGICAL INSTRUMENTS**). Headings that describe particular procedures are often very appropriate. (For ex. the term **TONSILLECTOMY** with the subheading

instrumentation is excellent for instruments used in this procedure). It is also appropriate to use the subject heading for the medical specialty that would use this type of instrument. In the above example it would be appropriate to use the heading **OTOLARYNGOLOGY** (with the subheading **instrumentation**).

The first indicator is blank. The second indicator is 2 (indicates NLM subject heading).

Several subject headings may be used if needed.

A second set of MeSH-derived subject headings used by some institutions in Ohio can also be added. If using these headings use 4 for the second indicator. Putting MeSH-derived local headings in the 650 field is advantageous since this field stays in the master OCLC record.

It is not always possible to find appropriate subject headings in MeSH for all medical instruments. For example, some very general instruments do not seem to fall under any of the more specific headings, yet the heading **SURGICAL INSTRUMENTS**, as mentioned before, is much too general. This problem is solved by the use of local subject headings to be used in addition to MeSH or if no MeSH heading can be found. Local headings are placed in the 690 field. (See instructions for the 690 field for further explanation.)

690

This field can be used for subject headings that are unique to a particular institution and that bear little if any resemblance to MeSH. These headings do not stay in the master OCLC record, but may appear on some local systems.

The OHMAC project catalogers use a list of local storage headings devised by the Dittrick Medical History Center and Museum for its own use. These headings are used in conjunction with MeSH headings or alone only when no MeSH heading is appropriate. They are never used instead of MeSH. These headings can also be useful for storage purposes as they allow items to be stored together by function. This list of headings is included at the end of this manual.

700

This is the added entry field for personal names and provides an additional access point by allowing searching by designer name. The online name authority file should be checked to determine the correct form of the name. If the designer's name is not in the authority file, it should be entered in conformance with AACR2 and LC practice. Many designer names will not be included in the online authority file, but the OHMAC project has developed its own authority list, and institutions should be consistent in their own practices. (The OHMAC project's name authority list is available on request.)

The first indicator describes the form of name. See OCLC Audiovisual Media Format for an explanation of the different indicators that may be used to designate the form of name. The second indicator is always blank.

\$a Designer's name (inverted)

\$q Qualification of name (fuller form) (e.g. 700 11 Lawrence, D.H., \$q (David Herbert)

\$c Titles associated with designer's name (e.g. Sir or Lord NEVER include Dr. in this delimiter).

\$d Dates of the designer, if known. Dates are given as follows:

complete:	1845-1923
birth date unknown	d. 1923
personal still living	1940-
death date unknown	b. 1845

\$e Relater or term that describes the relationship between the personal name and the object cataloged. This term is usually "designer" but may also be "artist," "owner," etc.

The OHMAC Project does not enter donor and owner names into the 700 field for input into the master record. This information is local and would not apply to all instruments of this type. It creates a problem for copy cataloging as only the first institution to catalog a particular object can display their donor information. However, realizing that some researchers would like access to information on the user of the instrument, owner/donor names may be entered into the 700 field of the local system to allow researchers to retrieve this information. This information is entered onto the local system after the record has been updated in OCLC and so does not appear on the master record in OCLC. Researchers can access the local systems of most libraries via their online catalogs.

Note: The 700 field is a repeatable field. If more than one person is responsible for the design of the instrument, two or more 700 fields are used.

710

This is the added entry field for corporate names and provides an additional access point by allowing searching by corporate name. Check the authority file for correct form of corporate names. If no authority record can be found in the authority file, corporate names should be entered in conformance with AACR2 and LC practice. Most instrument manufacturer's and distributor's names will not be included in the online authority file, but as with designer names, we have developed our own authority list, and institutions should be consistent in their own practices. (This list is also available on request.)

This field is repeatable.

The first indicator describes the form of name. See OCLC Audiovisual Media Format for an explanation of the different indicators that may be used to designate the form of name. The second indicator is always blank.

774

This field is for linking pieces of a set to the master record for the complete set. This field is used in cataloging sets defined as:

A group of instruments, the majority of which can be sold and used separately, assembled by a manufacturer to be sold as a set. Examples: general surgical set, amputation set, pocket cases, multipurpose pump sets, dissecting sets. A separate record is made for each subunit and then linked to the set as a whole by using this field.

This field is NOT used for a set where the majority of instruments have little or no meaning without the others in the set. Examples: hypodermic set, intubation set, etc.

The 773 field is included in the records for each instrument included in the set but not for the record for the set as a whole.

If field 773 is present in a record, fixed-field element Bib lvl must contain code "a" indicating that it is a component part within the host item. The subfields in field 773 identify the host item by its title, manufacturer, and OCLC number.

The first indicator should be 0. The second indicator is blank.

\$7 is entered as the first subfield of field 773. This subfield can contain up to four one-character codes as follows: nnra

\$t enter the title as in the 245 field of the related bibliographic record (i.e. the record for the set as a whole).

\$d enter the place of manufacture, the manufacturer, and date of manufacture as found in the 260 field of the related bibliographic record.

\$w contains the OCLC control number for the related bibliographic record. This means that the record for the set as a whole must be entered first, before any of the records for its component pieces.

For further instructions on using this field see OCLC Audiovisual Media Format.

949

This field can be used for local processing information. Many institutions use this field for barcode information. It does not appear on the master record. Use of this field is entirely optional and defined by local practice.

CONVENTIONS FOR SOME CATALOGING SITUATIONS

The following section describes some of the unique situations encountered when cataloging medical artifacts and explains how these situations should be handled. Undoubtedly other institutions will encounter unusual situations that are not included in this manual. Institutions should consult AACR2 and Library of Congress Rule Interpretations for ideas for handling difficult cataloging situations. Sometimes a decision will have to be made by an individual institution. The most important thing to keep in mind when deciding how to deal with an unusual situation is consistency. Each institution must be consistent in their own cataloging and with cataloging being done by other institutions.

SETS

EXAMPLES OF SETS

Welch Allyn combination set.

Otolaryngology combination set. Set of four plastic trumpet-shaped ear specula and one plastic nasal speculum of varying sizes fit into ring on diagnostic head. Chromium-plated diagnostic head has hinged circular glass lens and light bulb. May-type ophthalmoscope has round flat rotating disk with milled edge; disk houses 24 small circular lenses of varying strengths and has milled adjustment lever. Diagnostic head and ophthalmoscope fit to cylindrical chromium-plated brass battery handle. All parts are housed in molded plastic case with soft rubber lining. Specula marked: " ". Diagnostic head marked: " ". Ophthalmoscope marked: " ". Battery handle marked: " ".

Sahli hemometer.

Hemometer. Bakelite stand, backed by opaque glass plate, houses two sealed glass amber standard tubes; removable round glass graduated tube fits into hole on top of stand and rests in between the two color standards. Also included in set: glass dropping pipette; 20cmm capillary pipette with rubber tube and glass mouthpiece; glass stirring rod; glass acid bottle with rubber stopper and bakelite screw top. Leatherette case with velvet interior; lid marked: " ".

Gruber's ear specula.

Aural specula set. Set of three nested bakelite aural specula; each speculum has an oval opening at distal end, flares to middle and extends to proximal end in a straight-sided cylinder, terminating in a rolled edge; each speculum is a different size.

* in the 300 field remember to use: 1 set _____ (# pieces) :

Note: Sets that contain objects that are used and sold separately (such as general surgical sets, amputation sets, pocket cases, dissecting sets, etc.) should be cataloged together as a set. Each instrument should then also be cataloged separately using the 773 field to link these records to the record for the whole set. (See explanation of 773 field) When cataloging these types of sets,

check each instrument carefully to ensure that all of the components were really sold together as a set originally. Often, pocket cases, instrument rolls, etc. could be purchased by themselves and filled with whichever instruments the doctor chose. Check each instrument, if they were sold as a set they will have the same manufacturer and be from the same time period. If the majority of the pieces were not sold originally as a set, they should be catalogued separately and not as a set. A 590 note can be included that states that the instruments are now housed together in a case. None of these elements are linked except possibly by their storage heading (099 field). If most of the instruments in the set are of the same manufacture etc. then catalog them as a set, using the 773 field to link each individual element to the record of the set as a whole. If a reference is found for the set, all pieces originally sold with the set should be noted in a 500 note. Any pieces that are missing or that have been replaced by another piece or a similar piece of different manufacture should be noted in a 590 note and then cataloged separately. A 590 note can be added for these instruments stating that they are stored with a set. If no reference is found the set should be cataloged as incomplete and any pieces not original to the set cataloged separately as above. (See description of an incomplete instrument below.)

ACCOMPANYING MATERIAL

If printed accompanying material is included with instrument (i.e. directions, promotional material, testimonials, etc.) **z** is used in the fixed field. The correct language code is used in the lang fixed field. The 300 field should include the plus sign (+) and **≠e # accompanying material**.

DESCRIPTION OF AN INCOMPLETE INSTRUMENT

If an instrument is incomplete but a reference for the instrument is found in a trade catalog or other reference source, the instrument is cataloged normally, describing the complete instrument as found in the reference source. Any missing parts are noted in the 590 local note field.

If an instrument is incomplete and a reference is found that is similar to, but not identical to, the instrument in hand, the cataloger uses "_____-type" in 245 field. The phrase "similar to design by_____" is entered into \$c subfield if this information is known. The 500 source of title field will state: "Title supplied by cataloger." The 510 source field will include "\$c similar to p. __, fig. __." The 520 field will include a description of the complete instrument as found in the reference source. Any missing parts are noted in the 590 local note field. A judgment call is required on the part of the cataloger to decide if an instrument is similar enough to the cited source to call the instrument a "-type." This method should not be used for minor variations of the same instrument (i.e. for insignificant manufacturing differences like joints, hinges, color of case, etc.).

If no reference can be found for the instrument and it is apparent that it is missing a part or parts, then encoding level **K** is used in the fixed field and a second 500 note is added that states: "Description based on incomplete instrument." The instrument in hand is then described in the 520 note field. The cataloger either takes the title from the instrument, accompanying information, or instrument case, or supplies a generic title (like Binaural stethoscope or

Ophthalmoscope). If a generic title is used the 500 source of title field states: "Title supplied by cataloger." Using encoding level K in the fixed field allows the cataloging record to be upgraded (encoding level I) at a later time if a source is found or if there is the possibility of describing and cataloging a complete example of that instrument. (See also section on uncertain identification.)

INSTRUMENTS WITH NON-STANDARD PARTS

Many medical artifacts are found that contain parts that were not originally sold with the instrument. These may be objects that the owner used with the instrument or they may be auxiliary parts such as light sources that are interchangeable with other instruments and were sold separately. In these situations, if the non-original part was sold separately, it may be cataloged separately, noting that it is stored with another instrument. If the objects are nonmedical or not worth cataloging (like cotton balls, cotton swabs, pieces of wire, etc.), they can be noted in the 590 field of the instrument being cataloged. Parts such as these described above and not originally sold with the instrument should never appear in the 520 description note field.

In the event that it is not possible to determine from reference sources whether a part is non-standard, the instrument and any accompanying parts should be described. In this case, the fixed field should contain encoding level K and a second 500 field should state: "Description based on instrument in library or institution name."

It should be noted, however, that there are certain instances where it is appropriate to include the mention of a part not originally sold or purchased with an instrument. It is possible that the full description of an instrument may out of necessity refer to an item that is essential to the function or operation of the mechanism, but not included or sold with the instrument. Examples range from rubber tubing for irrigation syringes to power sources for transillumination lamps. In this event, after reference to the significant, but individually purchased product, the following should appear:

(purchased separately). This is illustrated in the example that follows.

E.S.I. Company cautery handle.

Cautery handle. Rectangular bakelite handle has round on/off switch and nickel-plated brass contacts at one end; contacts are hexagonal with holes on four sides for attachment and positioning of electrodes (**purchased separately**); set screws on contacts hold electrodes in place; opposite end of handle has two cylindrical barrel connectors that secure removable cloth-covered electrical cords; each cord terminates in single prong plug to connect to exterior power supply; marked: "E.S.I. CO. ROCH N.Y."

UNCERTAIN IDENTIFICATION

If identification of object is uncertain and no citation can be found the item may be cataloged using encoding level K. The 500 field reads: "Title supplied by cataloger." A second 500 field is then added that states: "Identification of object undocumented by authoritative source." The cataloger describes the object and deletes the 510 field.

The second 500 field should not be used if identification is positive but no exact citation can be found. In this case encoding level K may still be used in the fixed field. For example, if the cataloger has a stethoscope but cannot find a citation for that particular type of stethoscope and it does not seem that this stethoscope should be cataloged as a "-type", she would use encoding level K. The 245 field would read: "[Binaural stethoscope]" and the 500 field would read: "Title supplied by cataloger." The 510 field would be deleted. No second 500 field is necessary.

BUNCH CATALOGING

Use bunch cataloging when more than three objects are cataloged on the same record. These objects should have the same description (including materials, dates, and manufacturing information) and eponymic name but, different accession numbers. (Objects may vary slightly in size).

When bunch cataloging, list one accession number in 035 and 099 fields followed by etc. Make a separate list for donor information for each accession number in case this is later added to local system. Include a 590 note for varying sizes or other minor differences if appropriate. A separate 949 field must be included for each item listing each accession number.

Note: the 300 field and the 520 description note field describe only one of the instruments. Number of physical units is "1" (or "1 set ") and the 520 description note field will describe just one item or one set. (For example if the institution has two identical Morton ophthalmoscopes, the 300 field will read: 1 ophthalmoscope NOT 2 ophthalmoscopes.)

Also note: "Bunch cataloging" is directly comparable to book cataloging when several copies of one title are held and cataloged within the same institution or library.

COPY CATALOGING

One of the main advantages of OCLC is that it allows institutions to share cataloging, eliminating duplication of effort and inconsistencies that were formerly a fact of life for all catalogers. Once an object has been cataloged, any other institution may use this cataloging and add their institution to the list of holdings for that object. This process is known as "copy cataloging." It is important for every cataloging institution to search the OCLC database for each object that they catalog before updating a record to avoid duplication and a "dirty" database. If the artifact has not been cataloged, the institution can then create the original catalog record for that object. If the object is found, the institution adds their holding to the record. Another record is made if the artifacts differ by any of the following:

1. Dates
2. Eponymic name
3. Manufacturer
4. Distributor

5. Materials

See OCLC Bibliographic Input Standards, chap. 4, "When to Create a New Record" for more information.

When copy cataloging, the master record may be edited for local use, including changing 035 fields, adding 099 fields, 590 fields, and 949 fields.

REPLICAS

Replicas represent a unique cataloging situation. It is important to keep in mind that it is the replica that is being cataloged, not the original. Therefore, the replica should be dated according to when it is actually manufactured, not when the original that it represents was manufactured. The country of manufacture of the replica should be reflected in the ctry field as well as in the 260 fields. If the artist of the replica is known this can be included in the 245 and 700 fields. In addition the 245 field should indicate that the object is a replica. (i.e. Replica of Laennec's stethoscope). The 520 not field should begin: Replica of Laennec's stethoscope... Alternate titles should included, however, any titles that would have been given to the original object.

B.C. DATES

If an object to be cataloged dates from before A.D.1, the date tp in the fixed field is b. The DATE 1 and DATE 2 fields are blank. In addition field 046 should be included in the records that records the B.C. dates. (See workform explanation for additional information on this field).

SUGGESTIONS FOR ESTABLISHING APPROXIMATE DATES OF MEDICAL ARTIFACTS

The first tenet of establishing the approximate date of manufacture of an artifact is to consider that the range assigned should be able to encompass not only the article in hand, but any item of similar style, manufacture, and material. Several factors must be taken into consideration when assigning beginning and ending dates. Certain clues are almost self-evident; others are based on a combination of common sense and informed intuition.

It is helpful first to examine the item in question for any possible marks that may be useful in developing a range of dates. Some very key indicators include a patent date or patent number. The name or trademark of a manufacturer may be helpful, especially if information is available on the history of the company, including date(s) of operation, manufacture and distribution. Country of production may also prove instrumental if trade patterns can be taken into account, and also manufacturing practices within a country or region. An item may also be marked regarding material of composition, e.g. "stainless", "chromed", or "rustless". In addition, in rare instances, the name of developer or inventor may be stamped on an item. If local information regarding a unique artifact is available, such as the years of practice of the original owner, a very general range of dates, taking several caveats into consideration, may be indicated.

After gleaning information from the item itself, or that related to a specific article, cues may be taken from secondary sources, including trade catalogs. Establishing the identity of an artifact, including eponymic name, can be helpful in establishing an approximate date range. Here, once again, a combination of factors can point to a possible span of manufacture. One clue is to establish the earliest appearance of an item or similar item in the catalogs. Of course, material of composition, appearance or non-appearance of aseptic joints, and sometimes simply general presentation may necessitate adjustment of earliest date of manufacture. Further, if information about the developer or inventor can be found, including birth and death dates, this can be considered when assigning the range of dates, especially beginning date. Additionally, certain medical or surgical procedures may have been in practice for a limited era, thus tools used in these operations would have been manufactured for a similarly limited era. Assigning an end date, again following above guidelines, can also be helped by examining trade catalogs to find latest appearance of an artifact.

In general, it is almost impossible to establish exact dates. Sometimes an item may be marked so as to indicate exact date of manufacture. The approximate range of dates must take into consideration and should be consistent with any information that can be obtained about an artifact. In most instances assignment of dates can safely accommodate a fifty year range based on above factors.

THINGS TO LOOK FOR WHEN DATING INSTRUMENTS

1. Examine artifact for manufacturer's marks
 - a. Patent date/patent number
 - b. Manufacturer/distributor name or trademark
 - c. Country of production
 - d. Material of composition (sometimes revealed through plating)
2. Explore donor file
 - a. Owner
 - b. Unique use of instrument
3. Identify item in trade catalog
 - a. Establish eponymic name
 - b. Earliest/latest appearance of item
4. Research historical context
 - a. Birth/death of developer/inventor
 - b. Use in medical procedures
 - c. Appearance/non-appearance of aseptic joints, etc.

Materials Information

Plating

gold, silver, platinum plating

1839/40: electroplating introduced
ca. 1842: Charriere plates surgical instruments; Tiemann follows suit in 1843¹

nickel-plating

mid 1860s: nickel-plating introduced, but not yet widespread²
early 1870s: commercial/production basis nickel-plating begins; by 1876 nickel-plating is fairly universal in surgical instruments³

*chromium-plating*⁴

1908-08: first patents describing process similar to modern techniques
1923: commercial introduction of chromium-plating

Alloys, special metals

stainless steel [chromium + carbon + iron, or chromium + nickel + carbon + iron]

Stainless steel is a totally corrosion-resistant steel that contains nickel and chrome. It is very strong and hard. It is now the most common material used in making surgical instruments.

1819-24: Michael Faraday and James Stodart, a cutler and “maker of surgeon’s instruments,” systematically experiment with different alloys to improve the quality of cutting instruments; did not actually succeed as hoped, but inaugurated search for improved steel alloys, including stainless steel.⁵

¹ See Edmonson, “Asepsis,” notes 2 and 3.

² F.B. Howard-White, *Nickel: An Historical Review* (New York: D. Van Nostrand Col, 1963), 109-110.

³ J.H. Thompson, “Group XXIV. Medicine, Surgery, Prosthesis,” in United States Centennial Commission, International Exhibition, 1876. Francis A. Walker, ed. *Reports and Awards. Vol. VII. Groups XXI-XXVII* (Washington: Government Printing Office, 1880), 62.

⁴ Robert Weiner and Adrian Walmsley, *Chromium Plating* (Teddington, England; Finishing Publications Ltd., 1980), Chap.1, “Historical Development.”

⁵ P.S. Bardell, “The Origins of Alloy Steels,” *History of Technology* 9 (1984): 3-4.

- 1894: nickel steel utilized for instruments; had great tensile strength, but not suited to cutting instruments. (couldn't be made to hold a cutting edge)⁶
- 1909-12: chromium-nickel steels developed in Germany⁷
- June 1914: stainless steel cutlery manufactured in Britain; produced in America in 1915
- 1920-21: surgical instrument makers begin advertising use of stainless steel⁸

Monel metal

A nonrusting silvery-white alloy of copper (33%) and nickel (66%) and small amounts of other metals produced from the nickelferous ores of the Sudbury district in Canada. It was named after Ambrose Monell (d. 1921) of New York. It was used in the early 20th century, before stainless steel became popular.

German Silver

An alloy of nickel, copper and zinc used in some silver plate bases; also called nickel silver

Composite, plastic, etc.

Hard Rubber

Also known as vulcanite; a hard readily cut rubber obtained by treating rubber with heat and sulfur to give it greater strength, elasticity, and durability. It was developed in the 1830s and commonly used for instruments and instrument handles up until the early part of the 20th century.

Gutta Percha

A tough rubber-like gum made from the milky juice of various Malaysian trees of the Sapodilla family, used as a dental cement among other uses.

Caoutchouc

“Pure rubber.” An Indian word of the lowland tropical area of South America. This material became known to settlers between 1765 and 1775.

⁶ Edmund Andrews, “nickel steel for surgical instruments,” *JAMA* 22 (Jan.-June, 1894): 842-43. Andrews consulted Charles Degenhardt of Chicago, “but the instruments maker found that while the blades could not break, the edges turned, and could not be made to hold their cutting form by any mode known to cutlers.”

⁷ Ernest E. Thum, ed. *The Book of Stainless Steels. Corrosion Resisting and Heat Resisting Chromium Alloys* (Cleveland: American Society for Metals) Chap. 1, “Historical and Introductory Note,” 2-3.

⁸ See Charles Lentz & Sons, *Lentz “Noco” steel for the Medical Profession* (Philadelphia, 1920). On title page: “A New Product of Metallurgical Science Possessing Ideal Properties for the Manufacture of Surgical Instruments. Instruments made of this famous steel are rustless, stainless and non-corrosive.”

Bakelite

Created by Leo Hendrik Baekeland as a durable replacement for rubber in 1907.
Popular 1920s-50s

Celluloid

Invented in 1872 by John Wesley Hyatt as an ivory substitute. Very common by
1890.

Bibliography of Reference Tools Useful in Cataloging Historical Medical Artifacts

MEDICAL SUPPLY CATALOGS

Because most of these catalogs are out of print and must be bought through antiquarian book dealers or acquired from donations, it may not be possible to locate the exact catalogs listed here. Institutions should strive to acquire catalogs that cover a wide range of dates and that are fairly comprehensive. Each institution needs to examine the scope of their collection when deciding which catalogs will be most useful to them. Does the collection consist of mostly surgical instruments or diagnostic instruments or hospital supply items? For example, institutions that have large dental collections will want several dental catalogs, covering different time periods. Some smaller, younger collections seem to have instruments mostly from a fairly narrow date range (for ex. 1940-1979). They may have very few instruments from earlier periods and so need to have more catalogs from later periods. In addition, collections containing instruments of foreign manufacture may want to try to obtain a few catalogs of makers from that country.

In addition to antiquarian book dealers, some specializing in the history of medicine, manufacturers and distributors still operating today will sometimes be willing to provide current supply catalogs which can be useful in cataloging both modern and historical objects. Sometimes, it is even possible that these suppliers have archival materials that they may be willing to loan or even donate.

The following list includes catalogs from different time periods. Institutions will have to make substitutions as catalogs become available or according to the scope of their collections.

The asterisk (*) is used to designate particularly useful resources, a few of which are readily available for purchase.

19th CENTURY CATALOGS

A.S. Aloe Company (Incorporated) (St. Louis, Mo.) Aloe's Illustrated and priced catalogue of superior surgical instruments, physicians supplies and hospital furnishings. --6th ed. --St. Louis, Mo.: The Company, [between 1890 and 1899].

Pittsburg Physicians' Supply Co. (Pittsburgh, Pa.) Drugs, surgical instruments, trusses, supporters, crutches, elastic stockings : hospital supplies, electric batteries, orthopedic appliances, etc. / Pittsburg Physicians' Supply Co. Pittsburgh : The Company, 1899 [Philadelphia : John T. Palmer, Printer]

This catalog, or one like it, is particularly useful in identifying electrotherapy items and any number of support devices contemporary to the times.

*George Tiemann & Co. American armamentarium chirurgicum / George Tiemann & Co. 1889 : with a new introduction by James M. Edmonson, and F. Terry Hambrecht. Centennial ed. San Francisco : Norman Pub. : Boston : Printers' Devil, 1989.

This reprint edition is currently available, and represents one of the most important early fully illustrated catalogs of American surgical supplies. In purchasing very early trade catalogs, it is important to note that not all have illustrations, which are often required to identify objects.

*Truax, Charles Henry. The mechanics of surgery (1899) / [reprinted] with an introduction on Truax, and the development of the American surgical instrument industry by James M. Edmonson. -- San Francisco: Norman Publishing, 1988.

This is an essential volume. Not only does it include a variety of instruments and appliances, but describes the mechanism of the items themselves and includes a discussion of the procedures for which they were used. This is particularly valuable as introduction to surgery and medical therapy written in language and terms generally accessible to the layperson. This edition is also currently available.

Max Woche & Son (Cincinnati, Ohio). Illustrated catalogue and price list of Max Woche & Son : surgical instruments and orthopaedic appliances / Max Woche & Son. Cincinnati, Ohio : Max Schmidt, [between 1890 and 1896].

1900-1929 CATALOGS

Wm. H. Armstrong & Company (Indianapolis) Catalog of surgical instruments : deformity apparatus, aseptic furniture, and hospital supplies / Wm. H. Armstrong & Company. Indianapolis:
Wm. H. Armstrong & Company, 1901.

Frank S. Betz Company (Hammond, Ind.). Betzco line for 1929 / Frank S. Betz Company. [Hammond, Ind.] : The Company : 1929.

An especially useful resource in the identification of hospital supplies and furniture.

*Codman & Shurtleff, Inc. (Boston, Mass.). Illustrated Catalog of a complete line of standard surgical instruments / Codman & Shurtleff. Boston: Codman & Shurtleff, [between 1915 and 1920].

A relatively thin, but comprehensive volume.

*Kny-Scheerer Corporation of America (New York, N.Y.). Illustrations of surgical instruments of superior quality / manufactured by The Kny-Scheerer Corporation of America. 20th or 22nd ed. New York : The Corporation. c1915 or c 1926.

Either edition of the K-S catalog (also issued under Roemer Drug as well as under other distributors) is worth its substantial weight in gold. These are very complete, and provide access to the identification of almost all period medical supplies. A large percentage of instruments of this era were manufactured by the K-S company, and several distributors issued only K-S materials. As a viable alternative, a copy of Standard Surgical Instruments (issued ca. 1920) by several distributors (Fred Haslam of New York City, H.H. Hessler of Cleveland, and The Gibson Company of Washington, D.C., among others), will prove useful, and may be more available as it seems to have been almost universally issued.

J. Sklar Manufacturing Co. (Brooklyn, N.Y.) catalogs from early 1920's to 1960's.

All are good, especially for surgical instruments.

1930-1949 CATALOGS

A.S. Aloe Company (St. Louis) Surgical instruments, equipment and supplies : catalog no. 159 / A.S. Aloe Co., 1935.

A good source for hospital supplies in the 1930's, as well as general surgical instruments.

Feick Brothers Co. (Pittsburgh, Pa.). Surgical instruments and equipment for physician and hospital / Feick Brothers Co. Special edition, illustrated catalog. New York : Kny-Scheerer Corp., 1935.

Essentially a smaller version of earlier K-S catalogs, but useful because of the later date. This special edition is not only attractive to the cataloger, but to the book collector. It is a handsome volume.

*V. Mueller and Company (Chicago) Complete general catalog : surgical instruments, equipment, furniture and supplies / V. Mueller & Company. Chicago, Ill. : V. Mueller & Company, 1948.

Of all catalogs, this is one has proven time and again to be a source for otherwise unidentifiable artifacts. The 1948 catalog had several revised, supplemented editions issued, and, happily one or several of these is made available with some frequency. It is worth it to beg and borrow (but not steal) this particularly useful catalog.

Penn Surgical Manufacturing Company, Inc. (Philadelphia, Pa.) Penn surgical instruments / Penn Surgical Manufacturing Company, Inc. Philadelphia, Pennsylvania : The Company, 1941.

Although a deceptively slender edition, this is a very comprehensive catalog, and like the 1948 Mueller (see above), often illustrates objects not found in other larger catalogs.

George P. Pilling and Son Company. Catalog of instruments and apparatus for surgeons and hospitals. 1932-33 ed. Philadelphia : The Company, 1932.

1950-1979 CATALOGS

Allen & Hanburys. Surgical instruments, operation tables, sterilizers, hospital equipment / Allen & Hanburys. [London, England] : The Company, [1957]

A good resource, especially for European and British medical equipment in the 1950's.

American Hospital Supply Corporation (McGraw Park, Ill.). 160 catalog / American Hospital Supply Corporation. McGraw Park, Ill. : The Corporation, 1978.

As the title implies, this resource is most useful for hospital supplies, although is also good for large medical equipment and furniture.

*V. Mueller & Co. (Chicago). A comprehensive guide to purchasing : hospital-professional instruments-equipment-supplies / V. Mueller & Co. Chicago, Illinois : The Company, 1956.

Generally, all Mueller catalogs are fine tools. This is one of the most useful catalogs during this period, as it is comprehensive and illustrates both instruments and supplies.

*V. Mueller (Company) (Chicago, Ill.) The surgical armamentarium : instruments--professional equipment / V. Mueller (Company). Chicago, Ill. : The Company, 1973.

*Schuemann-Jones Co. (Cleveland, Ohio). Surgical, medical, hospital supplies and equipment : pharmaceuticals of the finest quality / Schuemann-Jones Co. [S.l.] : Surgical Catalog Company, 1964.

Like the 1973 Mueller (above), this catalog has a good selection of both instruments and supplies.

J. Sklar Manufacturing Co. (Brooklyn, N.Y.) catalogs from early 1950's to early 1960's.

Small, but useful catalogs issued frequently and illustrating contemporary surgical instruments.

1980-present CATALOGS

American Hospital Supply Corporation. American Hospital supply : [sixtieth anniversary catalog, 1922-1982] / American Hospital Supply Corp. McGraw Park, Ill. : The Corp., c.1982.

*Baxter Healthcare Corp. Operating Room Division (McGraw Park, Ill.). The surgical armamentarium : V. Mueller / Baxter Healthcare Corp. McGraw Park, Illinois : The Corporation, 1988.

This is really another Mueller catalog, and follows the standard of excellence of previously endorsed Mueller catalogs.

*Miltex Instrument Company, Inc. (Lake Success, N.Y.). Miltex surgical instruments / Miltex Instrument Company, Inc. Lake Success, New York : The Company, 1986.

A good, comprehensive modern catalog of surgical instruments.

Storz Instrument Company (St. Louis, Mo.) Storz surgical instruments : neurosurgery - oral maxillofacial - otolaryngology - plastic and reconstructive / Storz Instrument Company. St. Louis, Missouri : The Company, 1989.

Another good source for modern instruments, especially, but not limited to, the specialty surgical instruments listed in subtitle. Storz specializes in ophthalmic instruments, and issues separate, comprehensive catalogs illustrating these supplies.

SCIENTIFIC SUPPLY CATALOGS

Institutions whose collections are composed largely of scientific or laboratory equipment may find the following catalogs useful. Again, there are numerous manufactures and distributors of these supplies currently in operation who may be willing to provide modern catalogs that may prove useful in the identification of lab equipment. This is a very brief list of some historical references, and as these catalogs do not really illustrate the same kinds of materials as the works listed above, they are cited in the following list.

Eberbach & Son Company, Inc. (Ann Arbor, Mich.). *Laboratory apparatus, chemical reagents and microscopical stains* / Eberbach & Son Company, Inc. Ann Arbor, Mich. : The Company, [ca. 1925]

E.H. Sargent & Company (Chicago, Ill.). *Scientific laboratory apparatus and bacteriological supplies : price list no. 25* / E.H. Sargent & Company. Chicago, Illinois : The Company, 1922.

Standard Scientific Supply Corporation (New York, N.Y.). *Laboratory equipment and supplies : for the chemical, bacteriological, clinical and biological laboratory : Catalogue 65* / Standard Scientific Supply Corporation, New York, New York : The Corporation, 1944.

Arthur H. Thomas Company. *Welcome to the Thomas world of scientific apparatus* / Arthur H. Thomas Company. Philadelphia, Pa. : The Company, c1980.

OTHER USEFUL REFERENCE TOOLS

Under this heading falls the rest of the materials used in cataloging historical medical artifacts. These resources include bibliographies, directories, dictionaries, serials, and as our cataloging project creates data records for the OCLC (Online Computer Library Center) System using the MARC format, the manuals needed to conform to the standards set by system coordinators. Other essential references include a current copy of the AACR2 (Anglo-American Cataloging Rules) Rulebook and the most recent list of MeSH (Medical Subject Headings).

It also must be noted the Cleveland Health Sciences Library (in its entirety), is considered as an invaluable reference resource. Through the large collection of trade catalogs, as well as numerous historical and contemporary books and journals, a thorough grasp of the wide range of issues involved in cataloging can be obtained. These issues relate to information about surgery, both instruments and procedures, and the people and institutions involved placed in appropriate historical and social perspective. Lacking this wealth of information, institutions may wish to collect a small number of important works, or possibly attempt to receive needed items on loan.

MEDICAL ARTIFACT CATALOGING REFERENCE WORKS

RE: Cataloging Rules and Format

In the development of a cataloging project, ideas go through several phases, and invariably, changes and revisions are made. Each institution undertaking the task of cataloging medical artifacts will undoubtedly have a number of different requirements to meet the various needs and demands of its collection, staff, and cataloging format. However, the adherence to certain standard and universal guidelines is essential in the progression of a correct, and therefore, useful way of managing cataloging. As stated previously, this project centers around OCLC. The following works are primary references regarding the proper cataloging according to these standards. We have developed, through trial and error, a preliminary version of our own Manual for Cataloging Historical Medical Artifacts Using OCLC and the MARC Format. The writing and working of this manual, as well as the day to day process of cataloging, relies heavily on the works listed below.

Audiovisual media format. 2nd ed. (with revisions and updates) Dublin, Ohio : OCLC, c1986.

This publication, and subsequent revisions, is a requirement for understanding and interpreting the procedure for catalog records that meet OCLC standards. The work is available through OCLC.

Maxwell, Margaret F., 1927- *Handbook for AACR2 : explaining and illustrating the Anglo-American cataloguing rules* / by Margaret Maxwell ; with a new chapter by Judith A. Carter. 1988 revision. Chicago : American Library Association, 1989.

This a mainstay of any catalog department in virtually any library cataloging today. The work is currently available.

Medical subject headings. Annotated alphabetic list. Bethesda, Md. : Medical Subject Headings Section, Library Operations, National Library of Medicine : [Springfield, Va. : National Technical Information Service, distributor.

A current edition of this list is a source for all proper subject headings for medical works and objects. It is a serial regularly published and available.

RE: Manufacturers and Distributors

*Davis, Audrey B. *The finest instruments ever made : a bibliography of medical, dental, optical, and pharmaceutical company trade literature, 1700-1939* / Audrey B. Davis and Mark S. Dreyfuss. Arlington, Mass. : Medical History Pub. Associates I, c1986.

This book is an indispensable tool for locating information about medical manufacturers. Entries include a listing of catalogs and publications issued, and some information about duration of operation. The volume was widely purchased and several institutions already hold copies. It is possible that the work may also be available for purchase.

Medical device register. Greenwich, CT : DSI, c1981-

A recent copy of both the U.S. and Canada and the International volumes is an essential resource for locating manufacturers. Information is current, and includes location and nature of operations and is also a good record of corporate mergers, proper and preferred names of companies, and indicates whether a particular business is still in operation; often an important clue in dating artifacts. This work is a serial, and issued regularly.

RE: Medical Biography

A separate annotated bibliography was composed regarding sources most useful in locating information about medical persons and designers. Very often, locating such information, except about the very famous physicians, is a tedious labor, involving somewhat unsystematic searches through medical journals and the obituaries in these works. The job can be rewarding, but ultimately, time intensive. What follows is a very brief list, focusing on American and Canadian medicine, of the many sources available.

**Index medicus* (New York, N.Y. : 1879) *Index medicus*. New York : F. Leypoldt, 1879-1927.

This journal is a source that is often consulted, and contains notes about physicians, and sometimes includes a discussion of new instruments. The primary source of biographical information is the obituaries. The publication has a long and continuing history, and is in the collections of many libraries.

Miller, Genevieve, ed. *Bibliography of the history of medicine of the United States and Canada, 1939-1960*. With a historical introd. by W.B. McDaniel, 2d. Baltimore, Johns Hopkins Press [1964]

This work is also widely held by several institutions, and is particularly useful regarding important physicians and developments of instruments and medicine in specific fields.

Rutkow, Ira M. *The history of surgery in the United States, 1775-1900* / by Ira Rutkow. San Francisco : Norman Pub., 1988-1992.

This recently completed two volume set is a good bibliography of the works of eminent physicians during the period covered. There are numerous illustrations and biographical sketches of the personalities involved. This set is currently available for purchase.

RE: Medical Terminology

*Stedman, Thomas Lathrop, 1853-1938. *Medical dictionary Stedman's medical dictionary*. 25th (or later) ed. Baltimore : Williams & Wilkins, c1990.

A recent edition of this work is especially important for persons not versed in terminology used in medicine. Although the format is frustrating at times, it is an irreplaceable source for medical definitions. This dictionary also includes biographical information about important physicians, and can be a source for locating birth and death dates, as well as names of designers.

*Stedman, Thomas Lathrop. *A Practical Medical Dictionary*. 7th rev. ed. New York : William Wood and Company, 1922.

Production of this title began in 1911. While a current edition of Stedman's is valuable, previous editions, such as the one cited, can also be extremely useful in research efforts. The names of drugs and trade names formerly in use, as well as brief biographical notes regarding historical designers, can be located in volumes of an earlier date of publication. Medical dictionaries from even earlier time periods can also prove useful in identifying procedures and terminology in use at various times throughout history.

Bibliography of sources for medical biography and the history of medical instrumentation

American College of Surgeons. *Directory*. Chicago: Lakeside Press, 1913-14.

Very useful for establishing the birth and death dates of American surgeons. Full name of surgeon usually needed.

American Medical Association. *American Medical Directory*. Chicago: American Medical Association, 1906-

A useful source for locating living physicians. This source can help establish approximate death dates. One generally needs a physician's full name for this source to be useful.

American Men of Medicine. 3rd ed. Farmingdale, N.Y.: Institute for Research in Biography, 1961.

Good source for locating important American physicians practicing in the year 1961. A short biography of each physician is provided and usually has date of birth.

British Medical Journal. London: British Medical Association, 1857-

A fine source for locating information on European physicians. Also covers developments in medical technology. Prior to 1900, obituaries are limited to distinguished physicians. Later obituaries include a greater variety of physicians.

Fifield, James Clark, ed. *American Physicians and Surgeons; a Biographical Directory of Practicing Members of the medical Profession in the United States and Canada; including Supplements in which are Listed and Classified the Leading hospitals, Sanitariums and Health Resorts of both Countries*. Minneapolis: Midwest Co., 1931.

Limited in its usefulness due to its organization based on geography. There is no alphabetical index. Nevertheless, it covers some less important physicians practicing in 1931 and provides a short biography for each.

Garrison, Fielding H. *A Medical Bibliography: an Annotated Check-list of Texts Illustrating the History of Medicine*. Edited by Leslie T. Morton. (Issued in several editions by various publishers)

This is a valuable source that covers major physicians. The four editions are sufficiently different so that each should be consulted if one does not have needed information. Includes complete biographies and important publications.

Holloway, Lisabeth M., Ernest N. Feind and George N. Holloway. *Medical Obituaries: American Physicians' Biographical Notices in Selected Medical Journals before 1907*. New York: Garland Pub., 1981.

A useful source for obtaining birth and death dates of early physicians.

Index Medicus. New York: Leypoldt, 1879-

The most useful source for a researcher of medical history. It should be first or second source consulted. Its use proves tedious, but always rewarding.

International Who's Who in World Medicine. 1947. New York: American Universities Medical Research Publications, 1947.

Excellent source for locating distinguished physicians practicing throughout the world in 1947. Written in English, this volume provides complete biographies of physicians included.

Journal of the American Medical Association. Chicago: American Medical Association. 1983-

This journal continues Transactions of the American Medical Association. Excellent source for obituaries of American and foreign physicians. Obituaries are listed in index. Indexes are provided quarterly during some years, bi-annually for most. There are cumulative indexes for the years 1906-1910 and 1911-1915. There are rosters of AMA in the volumes for 1887 and 1891. After 1890 nearly every physician who practiced in America and passed away shows up in the obituaries of JAMA.

Kelly, Emerson Crosby. *Encyclopedia of medical Sources*. Baltimore: Williams & Wilkins Co., 1948.

Excellent source for information on American Physicians. Includes some companies and hospitals. Biographies of physicians include birth and death dates as well as important publications.

Lancet. London: J. Onwhyn, 1823-

British journal. Good source for obituaries (includes death dates of feamly members of physicians during early years). Also covers developments of medical technology.

Mayo Clinic. *Physicians of the Mayo Clinic and the Mayo Foundation: with Portraits*. (Issued in several editions by various publishers)

Useful for biographical information concerning physicians who are/were members of the foundation. Includes complete bibliographies for each member.

Medical Record. New York: W. Wood. 1866-1922, 1934-1956.

In 1922-1934 this journal was superseded by Medical Mentor. This is a useful source for the history of medical technology. Journal covers the development of new instruments (including frequent illustrations) with lengthy, descriptive articles. Not very useful for biographical material.

Miller, Genevieve, ed. *Bibliography of the History of Medicine of the United States and Canada, 1939-1960*. With an historical introduction by W.B. McDaniel. Baltimore: Johns Hopkins Press, 1964.

Started in 1964, this set of volumes is very useful in locating materials written on the history of specific medical fields, instruments, and eminent physicians.

New York Academy of Medicine. Library. *Portrait Catalog*. Boston: G.K. Hall, 1960.

Excellent first source, limited only by its publication date.

Pauly, Alphonse. *Bibliographie des Sciences Medicales*. Paris: Librairie Tross, 1874. Reprint. London: D. Verschoyle, Academic and Bibliographical Publications, 1954.

A wonderful source for information concerning early physicians. Offers a short description of important medical work prior to 1874. Includes a helpful name index. Does not give biographical information concerning physicians.

Reallexikon der Medizin und ihrer Grenzgebiete. München: Urban & Schwarzenberg, 1966-

A most useful source of medical names, terms, places, etc. Although in German, this is a highly readable and easily understandable source. It was published in six volumes over a period of seven years (1967-1974). Includes birth and death dates of physicians. Next to Index Medicus, this may be a researcher's most useful resource.

Rutkow, Ira M. *The History of Surgery in the United States, 1775-1900*. San Francisco: Norman Pub., 1988-

Very recent bibliography of the major works by important physicians and specialists which includes biographical notes and illustrations of some instruments. Two volumes of the four volume set have been published.

Watson, Irving A. ed. *Physicians and Surgeons of America: A Collection of Biographical Sketches of the Regular Medical Profession*. Concord, N.H.: Republican Press Association, 1896.

Very limited resource. Physicians in this volume can be found in NYAM Portrait Catalog. Watson's criteria for inclusion in this volume is suspect. Nevertheless, if a

needed physician is included in this volume, the biographical information is worth consulting.

Wellcome Institute for the History of Medicine. *Subject Catalogue of the History of Medicine and Related Sciences*. London: Kraus International Publications, 1980-

Good source for articles concerning medical instruments.

Who's Important in Medicine. New York: Institute for Research in Biography, 1945-1952.

Helpful resource that includes short biographies of physicians practicing during these years.

Who's Who in American Medicine. New York: Who's Who Publications

Very complete index of physicians practicing in America in the year of issue. Includes biographical sketches.

UROLOGY, GYNECOLOGY AND OBSTETRICS

American Journal of Obstetrics and Diseases of Women and Children. New York: W.A. Townsend & Adams, 1868-1919.

American Journal of Obstetrics and Gynecology. St. Louis: C.V. Mosby Co. 1920-

American Journal of Urology. New York: The Grafton Press, 1904-1914. Continued as *American Journal of Urology, Venereal and Sexual Diseases* (1914-1915), followed by *American Journal of Urology and Sexology* (1915-1920), and later merged with several other publications.

British Journal of Urology. Official journal of the British Association of Urological Surgeons. London: E. & S. Livingstone, 1929-

Journal of Obstetrics and Gynaecology of the British Empire. London: Journal of Obstetrics and Gynaecology, 1902-1960. Superseded by *British Journal of Obstetrics and Gynaecology*, 1975-

All of these journals provide excellent sources for names and instruments. The British Journal of Urology also indexes current urological literature.

OPHTHALMOLOGY

Acta Ophthalmologica. Copenhagen: Munksgaard. 1923-

Published in Copenhagen, this journal is a good resource for foreign physicians. However, obituaries are few in number.

American Journal of Ophthalmology. Chicago: Ophthalmic Publishing Co., 1884-

Excellent source for biographical material. Extensive obituaries. Periodically it includes roster of members. There are many articles on eye instruments.

Annales d'Oculistique. Paris: Doin, 1838-1977. Superseded by *Journal Francais d'Ophtalmologie*, 1977-

French journal. Good source for French doctors. Some technical information, but few obituaries.

British Journal of Ophthalmology. London: British Medical Association, 1917-

Excellent source for European doctors, their instruments, and obituaries.

Eye, Ear, Nose & Throat Monthly. New York: Insight Pub. Co., 1922-1976. Now published in Cleveland by International Publishers Group, 1976-

Worthwhile source on a limited basis.

Hirschberg, J. *The History of Ophthalmology.* Translated by Frederick C. Blodi. Bonn: J. P. Wayenborgh, 1982-

Multi-volume work covering all aspects of the history of ophthalmology. Good information on instruments as well as designers. Includes bibliographies of renowned ophthalmologists. Excellent photographs of instruments, including some of fairly obscure designs.

Ophthalmologica. Basel: S. Karger, 1938-

Good source for names.

Ophthalmology. Hagerstown, MD: Published for the American Academy of Ophthalmology by J.B. Lippincott Co., 1905-1917, 1976-

Good source for names and instruments of American doctors.

Ophthalmic Record: A Monthly Review of the Progress of Ophthalmology. Chicago: [s.n.], 1891-1917. Continued by *American Journal of Ophthalmology*.

Good source for names and instruments. Limited biographical information.

Ophthalmic Review: A Record of Ophthalmic Science. London: [s.n.], 1881-1917. Continued by *British Journal of Ophthalmology*.

Another good source of names and instruments.

OTOLARYNGOLOGY

Acta Oto-laryngologica. Oslo: Scandinavian University Press, 1918-

An international journal published in Stockholm. Good source for European doctors. Journal has some obituaries and very little technical material.

Archives of Otolaryngology. Chicago: American Medical Association, 1925-

Includes deaths of notable figures only. However, the introduction of new instruments makes this a valuable resource.

The Journal of laryngology, Rhinology, and Otology. London: Adlard & Son and West Newman, Lt., 1892-1920. Continued by *Journal of Laryngology and Otology*, 1921-

An excellent source of names instruments, and obituaries. There re two cumulative indexes which cover the years 1941-1957 and 1958-1969.

Laryngoscope. St. Louis: Laryngoscope, 1896-

Although there are few obituaries in this journal, the references to new instruments make it a valuable resource.

Weir, Neil. *Otolaryngology: An Illustrated History.* Boston: Butterworths, 1990.

THE most valuable resource for researching physicians and instruments in the field of otolaryngology.

Zeitschrift fur Laryngologie, Rhinologie, Otologie und ihre Grenzgebiete. Leipzig: Verlag von Curt Kabitzsch, 1908-1922. 1948-1974 published by G. Thieme in Stuttgart. Continued by *Laryngologie, Rhinologie, Otologie* 1974-

Good for locating German physicians. Very few obituaries.

NOTE: The preceding bibliography is incomplete. It does not cover a large number of alternative sources which a researcher may wish to consult at some point. The most important sources not listed above are the many geographically specific publications which are published by state or regional organizations. Also, fields not listed above, such as orthopedics, have their own journals which should be consulted when necessary.

Museum storage list used at the Dittrick Museum of Medical History

The following list details the local storage system of artifacts owned by the museum. Devised to manage the physical collection in preparation of the OHMAC project, it is based on Medical Subject Headings Annotated Alphabetical List (MeSH). It is not at all essential to other institutions cataloging artifact collections.

Acupuncture

Acupuncture therapy

Administration drug, inhalation (does not include Anesthesia, inhalation)

Atomizer

Inhaler

Nebulizer

Vaporizer

Administration drug, oral

Medicine spoon

Administration drug, topical (see also Contraceptives, oral)

Applicator

Powder blower

Advertising

Aesthesiometer (see Neurologic examination)

Analgesia, patient-controlled

Anesthesia by injection (see Injections)

Anesthesia, inhalation

Accessories

absorber

connector

flow meter

tube

vaporizer

Bottle and dropper

Gas bag

Inhaler/ mask

folding

inhaler

mesh

rubber
wire
Machine
Substance

Anesthesia, local

Angiocardiography

Art

Arthritis cures, non-professional

Artificial limbs

Auditory prosthesis (see Hearing aids)

Auscultation

Phonendoscope

Stethoscope

binaural

monaural

Autopsy (set only)

Ballistocardiography

Balneology (differentiate from Hydrotherapy)

Bandages (for spray-on see Occlusive dressings)

Basal metabolism

Bedding and linens

Blood cell count (and measurement)

Erythrocytometer (see Hemacytometer)

Halometer

Hemacytometer

counting chamber

pipettes

Platelet count (see Platelet function tests)

Blood coagulation tests

Blood flow velocity

Blood gas analysis

Blood glucose

Blood grouping

Blood pressure determination

Manometer

Sphygmomanometer

Tonometer (not ophthalmic)

Blood sedimentation

Blood specimen collection

Automatic lancet

Needle

Blood transfusion

Apparatus

Bottle

Cannula

Syringe and needle

Tube

Blood viscosity

Bloodletting (see also *Cupping*)

Artificial leech

Basin

Fleam

Leech jar

Scarificator

Spring lancet

Thumb lancet

Body temperature

Thermometer

Body weight

Bone (not art object, implement or tool)

Bone lengthening

Bottle feeding

Bottle
Nipple

Breast feeding
Breast pump
Nipple shield

Burial
Casket

Calculi

Catheterization (Cannulation except Blood transfusion, includes trocar and obturator)

Eustachian
Exploring
Gallbladder
Lacrimal
Nasal
Ovarian
Paracentesis
trocar
Universal

Cautery
Caustic holder
Electric
Gas
Handles
Iron

Cell Count

Cerebrospinal fluid pressure
Manometer

Chemical apparatus

Blowpipe
Burette
Burner

Container
balsam bottle
battery jar
beaker
cylinder

- flask
- graduate
- reagent
- specimen jar
- weighing bottle
- Wolff bottle
- Crucible
- Cylinder
- Dish
 - culture
 - evaporating
- Distillation
- Filter
- Funnel
- Lid and stopper
- Pipette
- Retort
- Specific gravity testing
- Stirrer
- Thermometer, chemical
- Tube
 - connecting
 - support
 - test
- Watch glass

Chemical warfare

Chemistry, analytical

Chinese medicine dolls (see Diagnostic model)

Circumcision

Cleft palate prosthesis (see Palatal obturators)

Clothing (for military insignia see Numismatics)

- Academic

- Accessory

- cane

- hat

- gloves

- shoes

- Laboratory, medical and surgical (includes costumed dolls)

- Street

Uniform (military)
Spanish-American War
World War I
World War II

Clyster (see Irrigation)

Color perception tests

Colorimetry

Cochlear Implants

Commemorative and association items

Contact lenses

Contraceptive devices (not chemical; see also Pessaries)

Condom
Diaphragm
Diaphragm inserter
Intrauterine device

Contraceptives, oral

Contrast media

Cosmetics

Cotton/ sponge

Cotton/ sponge, carrier

Applicator
Brush
Cotton/ sponge carrier
Probang

Counterirritants (see Bloodletting, *Cupping*, Moxibustion)

Crutches

Cryosurgery

Carbon dioxide (snow)

Cupping

Cup
Set

Curettage

Curette

adenoid
bone
dermal
ear
ethmoid
eye
mastoid
placental
tonsil
uterine
uterine set

Scoop

enucleator

Cutting tool (not obstetric; for surgery and dissection except trephining)

Bone drill (not Trephine)

Chisel and gouge

Director

general surgery
rectal

Hammer/ mallet

Knife

amputation
aural
bistoury
cataract
cleft palate
general operating
handle
laryngeal
microscope
nasal
ophthalmic
ophthalmic set
paracentesis
scalpel
scalpel set
spud
test drum
tonsil

uterine

Perforator

Aural

Punch (includes punching forceps)

antrum

eye

nasal

Raspatory

Rongeur

bone

nasal

Saw

amputation

bone

chain

metacarpal

nasal

plaster

skull

Scissors/ shears

abdominal (includes peritoneal)

bandage

bone (includes bone cutting forceps)

cuticle and nail

dissecting

microscope

nasal

operating

plaster

suture

rib

tonsil

uvula

Snare

ecrasure

loop

bladder

ear

eye

nasal

rectal

tonsil

Tome

adenotome

cardiovalvulotome

conchotome
costotome
craniotome
lithotome
meatotome
osteotome
periosteotome
tenotome
tonsillotome
tracheotome
urethratome
uvulotome

Trephine (see Trephining)

Defibrillation, electric (see Electric countershock)

Delivery (includes Embryotomy)

Axis-traction handle
Basiotribe
Case (set only)
Cephalotribe
Cranioclast
Fillet
Hook
 blunt
 crochet
Obstetrical forceps
Perforator
Tube
Umbilical tape
Vacuum extractor
Vectis

Dental articulators

Dental case (set only)

Dental casting investment

Dental casting technique

Blowpipe (see Chemical apparatus)
Burner (see Chemical apparatus)
Carving tools: porcelain and wax
Casting appliance/ materials
Clamp
Color/ shape guide

Crucible
Disk/ stone, etc.
Engine
Face bow
Flask
Furnace
Gauge
Mold/form
Occlusion guide
Spatula/measure
Swagging
Vulcanizer

Dental cements

Dental device, home care

Floss
Toothbrush (see Toothbrushing)
Waterpick®

Dental impression technique

Dental inlays (see Inlays)

Dental models

Dental prophylaxis (cleaning, scaling, etc. by professional)

Polisher
Scaler

Dental prosthesis (see *Dentures*)

Dental restoration, permanent

Alloy/amalgam
Apparatus

Dental unit

Dentifrices

Dentistry, operative (for preparing cavity, crown, for filling and finishing; to restore tooth function-do not confuse with Surgery, oral)

Bur
Burnisher
Chisel

Cleaver
Crown holder/ crown remover/ splitter
Dentimeter
Drill
Excavator
Explorer
File
Gum lancet
Instrument sharpener
Hatchet
Lights
Mallet
Nipper
Packer
Plugger
Punch
Rubber dam
 clamp
 plier
Spatula
Spoon
Tongue holder
Trimmer
Universal handle

Dentures

Depressor

Tongue
 folding
 handle
 lighted
 self retaining
Vaginal

Desiccation, electrical

Diagnosis, oral

Diagnostic model (Chinese medicine dolls)

Diathermy

Dilatation

Accessories
Bougie (locate strictures)

- esophageal
- rectal
- ureteral
- urethral

Dilator

- bite block
- esophageal
- mouth gag
- preputial
- rectal
- ureteral
- urethral
- uterine

Speculum

- aural
- eye
- intrauterine
- nasal
- rectal
 - proctoscope (includes anoscope and sphincteroscope)
 - rectal set
- sigmoid
 - sigmoidoscope set
- urethral
- vaginal

Director (see *Cutting tool*)

Disinfection (differentiate from Sterilization)

Dissection (set only)

Douching (see Irrigation)

Drainage (see *Suction and drainage*)

Drug case (medicine containers inside, with or without drugs)

- Conventional medicine
- Homeopathic
- Saddle bag

Drug compounding

- Herb cutter
- Measure
- Mill
- Mold

Mortar and pestle
Percolation equipment
Pill machine
Pill tile
Scales
Spatula

Drug labeling

Drug packaging (container and closure)

Closure

cork borer/shaper
konsel and capsule

Container

bottle
box and packet
carboy
jar (apothecary, decorative)
shelf bottle
snuff bottle

Drug paraphernalia

Drugs

Patent, proprietary, over-the-counter
all purpose cures (including liver & kidney pills, tonics, etc.)
Antacid
Aphrodisiacs
vitamins, health restorers, protectors
bitters
diet (obesity cures, diet supplements)
cough, cold remedies, respiratory
eye solutions
hemorrhoid suppositories
laxatives
podiatric remedies
headache remedies
plasters (not headache or toothache)
smelling salts
toothache remedies
topical remedies
Hemagogue/ Emmenagogue
Anti-bacterial, oral
Biopharmaceutics
animal products, derivatives
Carminitive

Connective tissue destruent
Digestive disorders
Ecbolic
Emetics
Hematinics
Flavorings/colorings
Topical balms, lotions
Homeopathic and other sectarian medicines
Narcotics (painkillers, analgesics)
Anti-toxins, toxins, toxoids, sera
Arsenicals
Anti-biotics
Vaccines
Insulin
Hormones
 pituitary
 thyroid extract
Immune suppressant
Anti-malarial
Anti-inflammatory
Anti-depressant
Stimulant (prescription: circulatory, respiratory, neural)
Topical (prescription)
Japanese medicines (not found in medical sources)
Anti-pyretic
Diuretics
Anesthetics
Depressants
Vitamin supplement, prescription
Cathartics
Anthelmintics

Drug, personal pill carrier

Dynamometer (hand-pressure)

Edema therapy device

Electric countershock

Electric stimulation therapy

 Electrode
 Machine
 Meter
 Resistance box

Electrocardiography

Electrocoagulation

Electroconvulsive therapy

Electroencephalography

Electrosurgery

Electro-surgical unit

Embryotomy (see Delivery)

Emergency medical tags

Endoscopy

Bronchoscope

Colonoscope

Cystoscope

Esophagoscope

Gastrocamera

Gastroscope

Lamp

Laryngoscope

Light source

Resectoscope

Urethroscope

Enema (see Irrigation)

Enteral nutrition

Gastrostomy

button

catheter

Epistaxis (see Tampons)

Exercise therapy

Exploring instruments

Probe

bullet

lacrima

needle

rectal

urethral

uterine
Sound
esophageal
urethral
uterine

Extraction, obstetrical (see Delivery)

Eye, artificial

Eye bath (see Irrigation)

Eye foreign bodies

Bur (also Burr)

Gouge

Spud

Eye protective devices

Eyeglasses

Case

Lorgnette

Pince-nez

Samples

Spectacles

Sunglasses

Feeding dish

Fees and charges

Fetal monitoring

First aid

Kit

Flag

Flowmeter (see also Anesthesia, inhalation)

Fluoroscopy

Forceps (see Delivery for obstetrical; Tooth extraction for dental;
Grasping and fixating for others)

Gas poisoning

Gastric function

Gloves, surgical

Graft occlusion, vascular

Grasping and fixating (not obstetrical or dental)

Clamp

- anastomosis
- bronchus
- gynaecological
- hemorrhoidal, pile
- intestinal
- tonsil
- vaginal

Elevator

- periosteal
- septum

Extractor

- bullet
- needle

Forceps

- adenoid
- anastomosis
- artery
- aural
- bone holding
- bullet
- chalazion
- cilia
- clip
- cover glass
- dental (see Tooth extraction)
- dissecting
- dressing
- endoscopic
- epiglottis
- esophageal
- fixation
- gallbladder
- hemostat
- holder
- hysterectomy
- intestinal
- iris

laryngeal
nasal
needle
obstetrical (see Delivery)
ophthalmic
pedicle
phimosis
pincer
placenta
retrieval
splinter
sponge
sterilizer
suture
tampon
tenaculum
throat
tissue
tongue
tonsil
towel
trachoma
tweezer
urethral
uterine
vulsellum
wire twisting

Hook

dura
nephrostomy

Pins

hysterectomy

Repositor

iris
uterine

Retractor

Abdominal
anal
aural
bone
cheek
general operating
lid
prostatic
self-retaining (does not include vaginal)
tonsil

- uvula
- vaginal
- Spatula
 - abdominal
 - brain
 - laryngeal
- Tenaculum
- Tractor

Hair preparations

Hair removal

Head reflector and lamp

Hearing aids

Hearing tests

Heart, artificial (implantable device)

Heart catheterization

Heart, mechanical (external heart-lung machine)

Heart valve prosthesis

Hematocrit

- Centrifuge
- Tube

Hemoglobinometry

Histological techniques

- Preparation

Home nursing (by family, not in hospital)

- Bedpan
- Cold water coil
- Food warmer
- Fumigation and air freshening
- Heating pad
- Hot water bottle
- Urinal

Household articles

- Box/ trunk
- Bowl
- Comb
- Footwarmer
- Light bulb
- Milk can
- Pen/ ink well
- Quilt
- Razor
- Ruler, compass, protractor, timepiece
- Utensil

Household and personal product, consumable

Hydrotherapy (do not confuse with Balneology)

Hygiene

Illuminator

Incubators, infant

Infant carrier

Infant food

Infrared therapy (see Phototherapy)

Infusion pumps (includes intravenous drug, fluid therapy, parenteral feeding)

- Bottle
- Needle

Infusions, intravenous

Injections (includes needles)

- Hypodermic needles
- Hypodermic syringe
 - antitoxin syringe
 - catheter
 - dental
 - insulin
 - tuberculin

- Set (syringe and needles in case)
 - case

Injections, jet

Inlays (dental)

Insufflation

Interior design and furnishings

Furniture, dental

Furniture, medical

Furniture, non-medical

Show globe

Sign, office

Office equipment

Interlibrary loans

Intestinal anastomosis

Button

Intrauterine devices (see Contraceptive devices and Pessaries)

Introducer (see Intubation, intratracheal)

Intubation, gastrointestinal

Intubation, intratracheal

Irrigation

Douche

Enema

Eye bath

Irrigator

bladder

rectal

tube/ clamp

urethral

uterine

vaginal

Syringe

accessories

bladder

ear, eye, nose

penile

rectal

urethral

vaginal

Joint prosthesis

Kidney, artificial

Kymography

Lamp

Laryngoscopy (see Otolaryngology)

Lenses, intraocular

Lensometer

Ligation and suture

Carrier

Knot tier

Stapler

staples and wound clips

Suture

Wire twister

Lithotripsy

Lung volume measurements

Manipulation, orthopedic

Massage (not heart)

Mastication

Medical case (set only)

Bag

Emergency kit

Saddle bag

Microscopy

Accessories and parts

diaphragm

drawing apparatus

filter

illuminator

objective

related equipment

- slide
- stage
- Microscope
 - American
 - compound
 - simple
 - European
 - compound
 - simple

Microscopy, electron

Microsurgery

- Binocular loupe

Microtomy (see also Histological techniques)

- Knife

- Microtome

Military medicine

Mirror

- Laryngeal

Model, structural ("phantoms" go here)

Mouth gag (see Dilatation)

Moxibustion

Nebulizers and vaporizers (see Administration, Drug, Inhalation)

- Atomizer

- Nebulizer

- Vaporizer

Needles (not for injection)

- Case

- Dissecting

- Microscopic

- Suture

- cataract discission and couching
 - holder (see *Grasping and fixating*)
 - with handle
 - puncturing
 - ligating
 - aneurysm

with shield

Neurologic examination

Aesthesiometer

Numismatics (medals and coins)

Medicine, general

Medicine, personal

Meetings and organizations

Military

Name tag

Sets

Token

Nursing care (by professionals in hospitals)

Obstetrical calendar

Obstetrical forceps (see Delivery)

Occlusive dressings

Spray-on-bandage

Ophthalmology

Ophthalmoscopy

Ophthalmoscope

Schematic eye

Orthodontic appliance

Orthopedic fixation devices

Bone nail, pin, screw

Bone plate

Splint

Orthoptics

Orthotic device (brace)

Otolaryngology

Otoscope

Set

Otoscopy (see Otorlaryngology)

Oxygen consumption
Respirometer

Oxygen inhalation therapy

Oxygenators

Pacemaker, artificial

Palatal obturator

Palpation

Pamphlets

Patch tests

Patient fees

Pelvimetry

Percussion aid
Hammer
Pleximeter

Perfume

Perimetry

Periodontics

Perkins tractor

Pessaries
Introducer

Pest Control

Phantoms (see Model, structural)

Philately

Photography

Photometry

Phototherapy
Sun lamp

Phrenology

Physical therapy

Physician and hospital supply
Enamelware
Promotional materials
Storage container

Plants, medicinal (actual specimen)

Platelet function tests

Play and playthings

Pneumothorax, artificial

Power sources
Adapter
rheostat
transformer
Battery handle

Pregnancy tests

Pregnancy tests, immunologic

Prescriptions, drug (actual written prescription or form)

Pulse
Polygraphy
Sphygmograph

Pupil

Quarantine

Radiation Monitoring

Radiography
Dosimetry
Foreign body localization
Machine

Tube

Radiography, dental

Reflex (see *Percussion aid*)

Refraction, ocular

Optometer

Refractoscope

Retinoscope

Religion and medicine

Respiration, artificial (consider also Ventilators, mechanical)

Respiratory therapy (See Administration, drug inhalation)

Restraint, physical

Straight jacket

Resuscitation

Retractor (see *Grasping and fixating*)

Rhinoscapy (see Otolaryngology)

Root canal therapy

Sanitation

Sclerotherapy (vericose veins)

Vein occluder

Serodiagnosis

Skin test (see Patch tests)

Skin transplantation

Dermatome

Skin grafting knife

Smoking

Snare (see *Cutting tool*)

Spectrophotometry

Spectrum analysis
Spectroscope

Spirometry

Splints

Spondylotherapy

Sterilization (of the environment, not sexual; differentiate from Disinfection)

Anti-rust tablets

Suction and drainage

Stomach pump

Syringe

Tube

Surgery, oral (Surgical therapy of disease, injury & defects of soft tissue of mouth and jaws. Do not confuse with Dentistry, operative.)

Surgical set

Amputation/ general surgery

Cleft palate

Handles

Ophthalmic

Sutures (see *Ligation and suture*)

Suture techniques

Syphilis serodiagnosis (see Serodiagnosis)

Tampons

Epistaxis

Packer

Tampon

Teaching materials

Models

Slides

Specimens, human and animal

Stereoptions

Teething

Textile

Tonometry (ophthalmological only)

Tooth

Tooth, artificial (see *Dentures*)

Tooth extraction

Elevator

File, separating

Forceps

Turnkey/stump extractor

Toothbrushing

Torture

Tourniquets

Automatic

Traction

Transillumination

Trephining

Brush

Forceps

Lenticular knife

Trephine

Trephining set

Trusses

Ultraviolet therapy

Urinalysis

Urinary catheterization

Female

Gauge

Male

Male, double current

Male/female

Stylet

Vaccination (limited to smallpox)

Comb
Lancet
Needle
Shield
Trocar
Vaccine

Ventilators, mechanical (includes iron lung)

Veterinary medicine

Vibration

Vision tests
 Trial lens set

Water supply

Weaponry

Wheelchairs

X-ray film (includes all images and viewers)

X-ray therapy

Italics designates a main storage heading that is not a MeSH heading.

Subheadings are not based on MeSH