AIMS to MPOG Adapter Guide

# Introduction

This guide is meant to help the developer of AIMS to MPOG Adapter to understand what data is stored in MPOG and how. Specifically, it describes each of the columns into which data is inserted. In addition, the “Tips and Warnings” sections point out common pitfalls or other useful information.

# Naming Conventions

* MPOG\_...
  + Columns that begin with this prefix are usually a mapping or some other form of transformation performed by the adapter. In short, this data is not directly from the AIMS.
* AIMS\_...
  + Columns that begin with this prefix usually contain undigested data from the AIMS or other source system.
* …\_ID
  + Used to identify columns that are part of a foreign key relationship. Common examples are MPOG\_Case\_ID or an MPOG\_Concept\_ID.
* …\_CD
  + Similar to \_ID, columns with this suffix denotes a code of some kind. They don’t participate in foreign key relationships.
* …\_DT
  + Columns ending in this suffix are of the type “DateTime”.
* …\_TS
  + Short for TimeStamp, these columns are also DateTime columns. Generally they are used to denote columns used to

# Tables to Be Aware of

The following tables store MPOG provided content and therefore no import script should alter their contents. They are described here as they are critical to the structure of the MPOG\_MAS database:

* MPOG\_Concepts
  + This table contains all the codes and definitions for MPOG concepts. This usually is not directly referenced, as the configuration tables in the MPOG\_MAS\_Config contain the mapping information
* MPOG\_Concept\_Types
  + This table contains all of the MPOG concepts types. These help identify which MPOG concepts belong in which tables. For example, concepts of the type “Preoperative Observations” only should be in the AIMS\_Preop table.
* MPOG\_Enumerations
  + This table helps document the various shortcodes used throughout the MPOG\_MAS database. Any column named like “MPOG\_...\_CD” (e.g. MPOG\_Deleted\_CD) references this table via a check constraint.
* MPOG\_Institutions
  + This table should contain only one row which identifies the contributing institution. This code must be provided by MPOG and is only relevant to the AIMS\_Patients table.

The following tables are either deprecated or irrelevant to the import process, so for the time being they can be ignored:

* MPOG\_LabVariables
* MPOG\_MAS\_Version\_History
* MPOG\_Transfer\_History
* MPOG\_PhiDictionary
* Any NSQIP\_ table

# Patients (AIMS\_Patients)

The AIMS\_Patients table contains the AIMS identifiers for a particular patient. Aside from the MPOG\_Institutions table, the AIMS\_Patients is the highest parent in the database schema hierarchy and therefore this data must be exacted second.

## Tips and Warnings

* As a general rule, do not delete patients from the MPOG\_MAS database if they are to be re-extracted. Doing so re-assigns the MPOG\_Patient\_ID and can cause synchronization issues with the central database.

## Columns

* MPOG\_Institution\_ID
  + This should refer to the single identifier in the MPOG\_Institutions table.
* MPOG\_Patient\_ID
  + This GUID is generated on insertion and therefore the import script should not include this column.
* MPOG\_Race\_Concept\_ID
  + This concept ID should be the mapped value of AIMS\_Race\_Text.
* AIMS\_Patient\_ID
  + This refers to the internal patient identifier that uniquely identifies a person.
  + This is transmitted to the centralized MPOG database and thus should not be PHI.
* AIMS\_first\_name
  + The patient’s first name / given name
  + This is NOT transmitted to the centralized MPOG database
* AIMS\_last\_name
  + The patient’s last name / surname
  + This is NOT transmitted to the centralized MPOG database
* AIMS\_middle\_name
  + The patient’s middle name
  + This is NOT transmitted to the centralized MPOG database
* AIMS\_reg\_num
  + Generally, the patient’s medical record number
  + This is different from the AIMS\_Patient\_ID in that this is the number that is visible on the patient’s chart and therefore is PHI.
  + This is NOT transmitted to the centralized MPOG database.
* AIMS\_sex
  + The patient’s biological sex
  + “M”, “F”, and “U” (Male, Female, and Unknown) are the only acceptable values.
* AIMS\_dob
  + The patient’s date of birth
  + This is NOT transmitted to the centralized MPOG database.
* AIMS\_ssn
  + The patient’s Social Security Number or other national identifier.
  + This is NOT transmitted to the centralized MPOG database.
* AIMS\_Race\_Text
  + The patient’s race
* AIMS\_Address\_Street\_1
  + Ignore
* AIMS\_Address\_Street\_2
  + Ignore
* AIMS\_Address\_City
  + Ingore
* AIMS\_Address\_State\_Province
  + Ingore
* AIMS\_Address\_Postal\_Code
  + Ignore
* AIMS\_Phone\_Number
  + Ignore
* AIMS\_Medicaid\_Identifier
  + Deprecated - ignore

# Cases (AIMS\_IntraopCaseInfo)

Once patients have been extracted, cases must be extracted next. A case is defined as an operation that has both a valid anesthesia start event and an anesthesia end event.

Once cases have been extracted, the order in which the other tables are extracted does not matter.

## Tips and Warnings

* Similar to patients, records in the cases table should not be deleted and re-extracted. Doing so would assign new identifiers. This is not a concern for any other table.

## Columns

* MPOG\_Case\_ID
  + This is the case identifier assigned by the database. Therefore the import script should insert this value.
* MPOG\_Patient\_ID
  + The patient that was operated on in this case
* MPOG\_Procedure\_Room\_Type\_Concept\_ID
  + The MPOG classification ID of the operation room
  + This can be found by joining to Configuration\_ProcedureRoomTypes on AIMS\_Procedure\_Room\_Name = AIMS\_Concept\_ID
* MPOG\_Admission\_Type\_Concept\_ID
  + The MPOG classification of the admission type (Inpatient, Outpatient, etc.)
  + Given there are so few admission types, the mapping is generally hard coded in the extract
* MPOG\_Primary\_Procedural\_Service\_Concept\_ID
  + The MPOG classification of the operation’s primary service (Cardiac, Orthopedics, Neurology)
  + This can be found by joining to Configuration\_ProcedureServices on AIMS\_Primary\_Procedural\_Service = AIMS\_Concept\_ID
* AIMS\_Case\_ID
  + The identifier for the operation in the AIMS
* AIMS\_Encounter\_ID
  + The visit / encounter the operation occurred on (e.g. the patient had two operations in one hospital stay)
  + Generally no AIMS stores this and therefore it is generally left as NULL
* AIMS\_Patient\_Age\_Years
  + This is how old the patient in years was at the time of operation
  + Years, Months, and Weeks are mutally exclusive (only one can be filled out)
  + Use the scalar function AgeYearsAtOperation to determine this
* AIMS\_Patient\_Age\_Months
  + This is how old the patient in months was at the time of operation
  + Years, Months, and Weeks are mutally exclusive (only one can be filled out)
  + Use the scalar function AgeMonthsAtOperation to determine this
* AIMS\_Patient\_Age\_Weeks
  + This is how old the patient in years was at the time of operation
  + Years, Months, and Weeks are mutally exclusive (only one can be filled out)
  + Use the scalar function AgeWeeksAtOperation to determine this
* AIMS\_Procedure\_Room\_Name
  + The name of the operating room
* AIMS\_Admission\_Type
  + The AIMS classification of what the patient’s admission into the hospital (Inpatient, Outpatient, etc.)
* AIMS\_Scheduled\_Duration\_Minutes
  + Deprecated - Ignore
* AIMS\_Scheduled\_DT
  + The time at which the operation was scheduled to start
* AIMS\_Primary\_Procedural\_Service
  + The AIMS classification of the operation’s primary service (Cardiac, Orthopedics, Neurology)
* AIMS\_Procedure\_Preference\_Card\_Code
  + Deprecated - Ignore
* AIMS\_Preoperative\_Diagnosis\_Text
  + A description of the patient’s diagnosis
* AIMS\_Scheduled\_Procedure\_Text
  + A description of the procedure that was scheduled to happen
* AIMS\_Actual\_Procedure\_Text
  + A description of the procedure that actually happened
* AIMS\_Documentation\_Template\_Text
  + Deprecated - Ignore
* AIMS\_Documentation\_Template\_CD
  + Deprecated - Ignore
* MPOG\_Deid\_Status\_CD
  + Not used for import - Ignore
* MPOG\_Upload\_Status\_CD
  + Not used for import - Ignore
* MPOG\_ReUpload\_CD
  + Not used for import - Ignore
* MPOG\_Last\_Upload\_DT
  + Not used for import - Ignore

# Medications (AIMS\_IntraopMedications)

This table contains all of the medications, both boluses and infusions, which were given intraoperatively. Each row details an individual bolus or infusion rate.

## Tips and Warnings

* If the infusion rate of a medication changes during a case, this should be reflected as separate rows in this table. Consider the following example:
  + An infusion has the following data
    - starts at 07:00 at a rate of 5
    - increases to 10 at 07:30
    - decreases to 7 at 07:45
    - infusion ends at 08:00
  + This would translate to three rows having the following rate / dose start / dose end:
    - 5 / 07:00 / 07:30
    - 10 / 07:30 / 07:45
    - 7 / 07:45 / 08:00
* Each bolus should also have its own row. Do not total the amount of each medication.

## Columns

* MPOG\_Dose\_ID
  + This identifier is generated on insert and thus should be ignored
* MPOG\_Case\_ID
  + The MPOG case identifier (defined in AIMS\_IntraopCaseInfo)
* MPOG\_Med\_Concept\_ID
  + The MPOG classification of the medication given
* MPOG\_Dose\_Type\_CD
  + Identifies whether this dose was an infusion or bolus
  + Refer to MPOG\_Enumerations for these codes
* MPOG\_UOM\_Concept\_ID
  + The MPOG classification of the medication dose’s unit of measure
  + This can be found by joining to Configuration\_MedicationUnits on AIMS\_Med\_UOM = AIMS\_Concept\_ID
* MPOG\_Route\_Concept\_ID
  + The MPOG classification of how the medication was administered (IV, Orally, etc.)
  + This can be found by joining to Configuration\_Routes on AIMS\_Med\_Route = AIMS\_Concept\_ID
* AIMS\_Dose\_ID
  + An identifier that uniquely identifies the dose in the AIMS
  + This identifier may not exist in the AIMS and therefore will need to be manufactured
  + This identifier, even if manufactured, is helpful is tracking where a particular record came from
* AIMS\_Med\_Concept\_ID
  + The AIMS classification of the medication given
* AIMS\_Dose\_Start\_DT
  + When the infusion began or when the bolus was given
* AIMS\_Dose\_End\_DT
  + When the infusion ended or null for boluses
* AIMS\_Med\_Name
  + The name of the medication as stored in the AIMS
  + This is usually different than the AIMS\_Med\_Concept\_ID which is a database identifier
* AIMS\_Med\_Dose
  + The rate of the infusion or how much of the bolus was given
* AIMS\_Med\_UOM
  + The AIMS classification of the UOM
* AIMS\_Med\_Route
  + The AIMS classification of the route
* AIMS\_Med\_Comment
  + Any comment entered by the user
* AIMS\_Dose\_Start\_TS
  + The time when the medication dose start was entered into the AIMS
* AIMS\_Dose\_End\_TS
  + The time when the medication dose end was entered into the AIMS
* AIMS\_Patient\_Dosing\_Weight
  + The patient’s weight as far as the medication is concerned
  + This column is optional (weight can be found in the preop table)

# Physiologic Readings (AIMS\_IntraopPhysiologic)

This table contains vital sign readings captured from monitors as well as those manually entered by a user. In addition, this table stores other physiologic observations such as train-of-four.

## Tips and Warnings

* Due to its size and the nature of the data it contains, this table has no primary key or uniqueness constraint.
* The columns AIMS\_Value\_Text and AIMS\_Value\_Numeric are mutually exclusive. Exactly one of these columns must have a value and the other must be left null for each record.

## Columns

* MPOG\_Case\_ID
  + The MPOG case identifier (defined in AIMS\_IntraopCaseInfo)
* MPOG\_Physiologic\_Concept\_ID
  + The MPOG classification for the type of physiologic reading this record describes
  + This can be obtained by joining to the Configuration\_PhysiologicVariableTranslation table on AIMS\_Physiologic\_Concept\_ID = AIMS\_Concept\_ID
* MPOG\_Value\_Marked\_Artifact\_CD
  + Whether the value was marked as an artifact value by the monitor
  + Refer to MPOG\_Enumerations for possible values
* MPOG\_Value\_On\_Record\_CD
  + Whether the value is visible on the medical record
  + Refer to MPOG\_Enumerations for possible values
  + The majority of AIMS do not make this sort of distinction; therefore this column is usually filled in with “1”.
* MPOG\_User\_Entered\_CD
  + A code describing if the reading was entered by a user or captured by a machine
  + Refer to MPOG\_Enumerations for possible values
  + There is a special value “Machine Entry Expected, User-Entered”. This is meant for records that were manually entered but were supposed to be recorded by a machine. Generally this is important as it can indicate issues with that operation’s data.
* AIMS\_Physiologic\_Concept\_ID
  + The AIMS classification for the type of physiologic reading this record describes
  + NOTE: This is the ParameterID of any relevant signals table that stores physiologic data, including EventSignals
* AIMS\_Value\_Observation\_DT
  + The time the physiologic reading occurred
  + This is different from AIMS\_Value\_Entered\_TS, which is when the reading was recorded
* AIMS\_Value\_Text
  + Stores text based values
  + This column is mutually exclusive with AIMS\_Value\_Numeric
* AIMS\_Value\_Numeric
  + Stores the numeric value of the record
  + This column is mutually exclusive with AIMS\_Value\_Text
* AIMS\_Value\_CD
  + Stores any code used in the source system to represent the value in the AIMS\_Value\_Text or AIMS\_Value\_Numeric columns
  + This column is optional and should be used only if such a code exists
* AIMS\_Value\_Entered\_TS
  + The time when the reading was recorded into the AIMS
  + This is different from AIMS\_Value\_Entered\_TS, which is when the reading actually occured
* AIMS\_User\_Comment
  + Any comment left by the user regarding this physiologic reading

# Notes & Events (AIMS\_IntraopNotes, AIMS\_IntraopNoteDetails)

The AIMS\_IntraopNotes table stores records regarding notes taken during an operation as well as events that occurred such as patient in room, anesthesia start/end, and surgery start/end.

The AIMS\_IntraopNoteDetails table allows a note to be stored as a collection of smaller notes grouped under the same parent note. This is usually used when the AIMS uses template notes which the user fills in pre-defined fields. As not all AIMS have this hierarchy, populating AIMS\_IntraopNoteDetails is optional.

## Tips and Warnings

* The columns AIMS\_Value\_Text and AIMS\_Value\_Numeric are mutually exclusive. Exactly one of these columns must have a value and the other must be left null for each record.
* An example taken from Centricity for AIMS\_IntraopDetails
  + The note template: \_\_ mm \_\_ ET tube taped @ \_\_ cm
  + AIMS\_IntraopNotes stores the whole note: 8.0 mm Single-lumen cuffed ET tube taped @ 22 cm
  + AIMS\_IntraopNoteDetails stores the individual fields as separate rows: 8.0 / Single-lumen / 22

## Columns (AIMS\_IntraopNotes)

* MPOG\_Note\_ID
  + This identifier is generated on insert and thus should be ignored
* MPOG\_Case\_ID
  + The MPOG case identifier (defined in AIMS\_IntraopCaseInfo)
* MPOG\_Note\_Concept\_ID
  + The MPOG classification of the note type
  + This can be found by joining to the Configuration\_IntraopNotes table on AIMS\_Note\_Concept\_ID = AIMS\_Concept\_ID
* MPOG\_Deleted\_CD
  + A code that represents whether the note was deleted by the user
  + Refer to MPOG\_Enumerations for a list of possible values
* MPOG\_Untimed\_Event\_CD
  + A code that represents whether the note is an untimed event
  + Refer to MPOG\_Enumerations for a list of possible values
* MPOG\_IntraopAttributes
  + Ignore this column
* AIMS\_Note\_ID
  + An identifier that uniquely identifies the note in the AIMS.
  + Such an identifier may not exist and therefore needs to be manufactured
  + This identifier, even if manufactured, is helpful is tracking where a particular record came from
* AIMS\_Note\_Concept\_ID
  + The AIMS classification of the note type
* AIMS\_Note\_Concept\_Desc
  + The name of the AIMS note type
  + AIMS\_Note\_Concept\_ID is often a numerical code whereas AIMS\_Note\_Concept\_Desc is a readable description
* AIMS\_Note\_Observation\_DT
  + The time the event / note was occurred
  + This is different from AIMS\_User\_Entered\_TS, which is the time when the event / note was recorded
* AIMS\_User\_Comment
  + Any comments entered by the user for this note
* AIMS\_User\_Entered\_TS
  + The time the event / note was recorded
  + This is different from AIMS\_Note\_Observation\_DT, which is the time when the event / note occurred

## Columns (AIMS\_IntraopNoteDetails)

* MPOG\_Note\_ID
  + The parent note that this record belongs to
* MPOG\_Component\_Concept\_ID
  + The MPOG classification of this note component
  + This can be found by joining to the Configuration\_IntraopNotes table on AIMS\_Note\_Concept\_ID = AIMS\_Concept\_ID
* MPOG\_Deleted\_CD
  + A code that represents whether the note component was deleted by the user
  + Refer to MPOG\_Enumerations for a list of possible values
* AIMS\_Component\_Concept\_ID
  + The AIMS classification of the component type
* AIMS\_Component\_Concept\_Desc
  + The name of the AIMS note type
  + AIMS\_Note\_Concept\_ID is often a numerical code whereas AIMS\_Note\_Concept\_Desc is a readable description
* AIMS\_Value\_Text
  + Stores text based values
  + This column is mutually exclusive with AIMS\_Value\_Numeric
* AIMS\_Value\_Numeric
  + Stores the numeric value of the record
  + This column is mutually exclusive with AIMS\_Value\_Text
* AIMS\_Value\_CD
  + Stores any code used in the source system to represent the value in the AIMS\_Value\_Text or AIMS\_Value\_Numeric columns
  + This column is optional and should be used only if such a code exists

# Staff Tracking (AIMS\_IntraopStaff)

This table stores data regarding which providers were present during an operation and when.

## Tips and Warnings

* A provider can sign in and out of a case multiple times
* This table has no primary key

## Columns

* MPOG\_Case\_ID
  + The MPOG case identifier (defined in AIMS\_IntraopCaseInfo)
* MPOG\_Staff\_Role\_Concept\_ID
  + The MPOG classification for the staff’s role in the operation (surgeon, anesthesiologist, nurse, etc.)
  + This can be found by joining to the Configuration\_Staff table on AIMS\_Staff\_Role = AIMS\_Concept\_ID
* MPOG\_Staff\_Physically\_Present\_CD
  + A code representing whether the provider was physically present during the case
  + Refer to MPOG\_Enumerations for possible values
* AIMS\_Staff\_ID
  + The internal staff identifier
* AIMS\_Staff\_Role
  + The AIMS classification for the staff’s role in the operation
* AIMS\_Case\_In\_DT
  + When the provider signed in
* AIMS\_Case\_Out\_DT
  + When the provider signed out

# Fluids (AIMS\_IntraopInputOutputs, AIMS\_IntraopInputOutputTotals)

The AIMS\_IntraopInputOutputs table stores fluid data such as lactated ringers, blood products, and urine output.

The AIMS\_IntraopInputOutputTotals table stores the fluid totals. This is useful when the AIMS stores totals separately from individual fluid measurements as it is possible for discrepancies.

## Tips and Warnings

* Do not store fluid totals in AIMS\_IntraopInputOutputs. Those belong in AIMS\_IntraopInputOutputTotals.

## Columns (AIMS\_IntraopInputOutputs)

* MPOG\_IO\_ID
  + This identifier is generated on insert and thus should be ignored
* MPOG\_Case\_ID
  + The MPOG case identifier (defined in AIMS\_IntraopCaseInfo)
* MPOG\_IO\_Concept\_ID
  + The MPOG classification of the fluid type
  + This can be found by joining to the Configuration\_IntraopMedication table on AIMS\_IO\_Concept\_ID = AIMS\_Concept\_ID
* MPOG\_IO\_Type\_CD
  + A code representing whether the record describes an input, output, or blood product
  + Refer to MPOG\_Enumerations for a list of possible values
* MPOG\_UOM\_Concept\_ID
  + The MPOG classification of the unit of measure used
  + This can be found by joining to the Configuration\_MedicationUnits table on AIMS\_IO\_UOM = AIMS\_Concept\_ID
* MPOG\_Route\_Concept\_ID
  + The MPOG classification of the route of administration type
  + This can be found by join to the Configuration\_Routes table on AIMS\_IO\_Route = AIMS\_Concept\_ID
* AIMS\_IO\_ID
  + An identifier that uniquely identifies the fluid record in the AIMS.
  + Such an identifier may not exist and therefore needs to be manufactured
  + This identifier, even if manufactured, is helpful is tracking where a particular record came from
* AIMS\_IO\_Concept\_ID
  + The AIMS classification of the fluid type
* AIMS\_IO\_Start\_DT
  + When the fluid measurement started
* AIMS\_IO\_End\_DT
  + When the fluid measurement ended
  + Most fluids are only measured intermittently (e.g. urine output) and therefore this column is often left null
* AIMS\_IO\_Name
  + The AIMS name of the fluid type
* AIMS\_IO\_Dose
  + The amount of fluid measured
* AIMS\_IO\_UOM
  + The AIMS classification of the unit of measure
* AIMS\_IO\_Route
  + The AIMS classification of the route type
* AIMS\_IO\_Comment
  + Any comment entered by the user regarding the fluid measurement
* AIMS\_IO\_Entered\_TS
  + When the start of fluid measurement was recorded
* AIMS\_IO\_End\_TS
  + When the end of fluid measurement was recorded
  + Like AIMS\_IO\_End\_DT, this column is often blank

## Columns (AIMS\_IntraopInputOutputTotals)

* MPOG\_Case\_ID
  + The MPOG case identifier (defined in AIMS\_IntraopCaseInfo)
* MPOG\_IO\_Concept\_ID
  + The MPOG classification of the fluid type
  + This can be found by joining to the Configuration\_IntraopMedication table on AIMS\_IO\_Concept\_ID = AIMS\_Concept\_ID
* MPOG\_UOM\_Concept\_ID
  + The MPOG classification of the unit of measure used
  + This can be found by joining to the Configuration\_MedicationUnits table on AIMS\_IO\_UOM = AIMS\_Concept\_ID
* MPOG\_Route\_Concept\_ID
  + The MPOG classification of the route of administration type
  + This can be found by join to the Configuration\_Routes table on AIMS\_IO\_Route = AIMS\_Concept\_ID
* AIMS\_IO\_Concept\_ID
  + The AIMS classification of the fluid type
* AIMS\_IO\_Total
  + The total amount of the fluid recorded during the operation
* AIMS\_IO\_UOM
  + The AIMS classification of the unit of measure
* AIMS\_IO\_Route
  + The AIMS classification of the route type

# Labs (AIMS\_LabValues)

The AIMS\_LabValues table stores laboratory values for a patient. This includes labs drawn both in and out of an operating room.

## Tips and Warnings

* AIMS\_LabValues is one of the few tables that are patient based instead of case based.
* A general rule for importing lab values is to pull all labs one year prior and after an operation.
* The columns AIMS\_Value\_Text and AIMS\_Value\_Numeric are mutually exclusive. Exactly one of these columns must have a value and the other must be left null for each record.

## Columns

* MPOG\_Patient\_ID
  + The MPOG patient identifier (defined in AIMS\_Patients)
* MPOG\_Lab\_Concept\_ID
  + The MPOG classification of the lab type
* MPOG\_Source\_Concept\_ID
  + Ignore
* AIMS\_Lab\_Concept\_ID
  + The AIMS classification of the lab type
* AIMS\_Lab\_Observation\_DT
  + The time the lab result was returned
* AIMS\_Value\_Text
  + Stores text based values
  + This column is mutually exclusive with AIMS\_Value\_Numeric
* AIMS\_Value\_Numeric
  + Stores the numeric value of the record
  + This column is mutually exclusive with AIMS\_Value\_Text
* AIMS\_Value\_CD
  + Stores any code used in the source system to represent the value in the AIMS\_Value\_Text or AIMS\_Value\_Numeric columns
  + This column is optional and should be used only if such a code exists
* AIMS\_Normal\_Range\_Low
  + The lower boundary of what is considered normal result at the time the lab was drawn
* AIMS\_Normal\_Range\_High
  + The upper boundary of what is considered normal result at the time the lab was drawn
* AIMS\_Low\_Normal\_High
  + Whether the lab result was low, normal, or high
  + Acceptable values are L, N, or H
* AIMS\_Comment
  + Any comments entered by the user
  + HL7 messages are often stored in this column
* MPOG\_Abnormal\_Concept\_ID
  + Ignore

# Outcomes (AIMS\_Outcomes)

The AIMS\_Outcomes table stores post-operative data such as patient mortality, pain scores, and patient satisfaction.

## Tips and Warnings

* Unlike most other tables, AIMS\_Preop often requires the import script to collect data from a wide variety of sources.
* AIMS\_Value\_Text, AIMS\_Value\_Numeric, AIMS\_Value\_DT are mutually exclusive. Only one column may have a value and the others must be null.

## Columns

* MPOG\_Outcome\_Note\_ID
  + This identifier is generated on insert and thus should be ignored
* MPOG\_Case\_ID
  + The MPOG case identifier (defined in AIMS\_IntraopCaseInfo)
* MPOG\_Outcome\_Concept\_ID
  + The MPOG classification of the outcome note type
* MPOG\_Deleted\_CD
  + A code that represents whether the note was deleted by the user
  + Refer to MPOG\_Enumerations for a list of possible values
* AIMS\_Outcome\_Note\_ID
  + An identifier that uniquely identifies the outcome note in the AIMS.
  + Such an identifier may not exist and therefore needs to be manufactured
  + This identifier, even if manufactured, is helpful is tracking where a particular record came from
* AIMS\_Outcome\_Concept\_ID
  + The AIMS classification of the outcome note type
* AIMS\_Outcome\_Concept\_Desc
  + The outcome note type name
  + AIMS\_Outcome\_Concept\_ID is typically a numerical identifier whereas AIMS\_Outcome\_Concept\_Desc is a readable name
* AIMS\_Outcome\_Observation\_DT
  + The time when the outcome was observed
* AIMS\_Value\_Text
  + Stores text based values
  + This column is mutually exclusive with AIMS\_Value\_Numeric and AIMS\_Value\_DT
* AIMS\_Value\_Numeric
  + Stores the numeric value of the record
  + This column is mutually exclusive with AIMS\_Value\_Text and AIMS\_Value\_DT
* AIMS\_Value\_CD
  + Stores any code used in the source system to represent the value in the AIMS\_Value\_Text or AIMS\_Value\_Numeric columns
  + This column is optional and should be used only if such a code exists
* AIMS\_Value\_DT
  + Stores datetime values of the record
  + This column is mutually exclusive with AIMS\_Value\_Text and AIMS\_Value\_DT
* AIMS\_User\_Comment
  + Any comment entered by the user
* AIMS\_User\_Entered\_TS
  + The time when the outcome was recorded

# Preoperative Observations (AIMS\_Preop, AIMS\_PreopDetails)

This table stores a wide variety of data including physical exam, medical history, and ASA status.

This table also has a child table called AIMS\_PreopDetails, which can be useful for grouping detailed records into one preoperative note. This is similar to the relationship between AIMS\_IntraopNotes and AIMS\_IntraopNoteDetails.

## Tips and Warnings

* Unlike most other tables, AIMS\_Preop often requires the import script to collect data from a wide variety of sources.
* Use of the AIMS\_PreopDetails table is optional. It should only be used if a preoperative observation in the source system is really a collection of smaller records.
* AIMS\_Value\_Text and AIMS\_Value\_Numeric are mutually exclusive but not with AIMS\_Value\_DT. At least one of these columns must a value.

## Columns (AIMS\_Preop)

* MPOG\_Preop\_Note\_ID
  + This identifier is generated on insert and thus should be ignored
* MPOG\_Case\_ID
  + The MPOG case identifier (defined in AIMS\_IntraopCaseInfo)
* MPOG\_Preop\_Concept\_ID
  + The MPOG classification of the preop note type
  + This can be found by joining to the Configuration\_PreoperativeConcepts table on AIMS\_Preop\_Concept\_ID = AIMS\_Concept\_ID
* MPOG\_Deleted\_CD
  + A code that represents whether the note was deleted by the user
  + Refer to MPOG\_Enumerations for a list of possible values
* AIMS\_Preop\_Note\_ID
  + An identifier that uniquely identifies the outcome note in the AIMS.
  + Such an identifier may not exist and therefore needs to be manufactured
  + This identifier, even if manufactured, is helpful is tracking where a particular record came from
* AIMS\_Preop\_Concept\_ID
  + The AIMS classification identifier of the preop note type
* AIMS\_Value\_Text
  + Stores text based values
  + This column is mutually exclusive with AIMS\_Value\_Numeric
* AIMS\_Value\_Numeric
  + Stores the numeric value of the record
  + This column is mutually exclusive with AIMS\_Value\_Text
* AIMS\_Value\_CD
  + Stores any code used in the source system to represent the value in the AIMS\_Value\_Text or AIMS\_Value\_Numeric columns
  + This column is optional and should be used only if such a code exists
* AIMS\_Value\_DT
  + The datetime based value of the preop note
  + Can co-exist with a value in AIMS\_Value\_Text and AIMS\_Value\_Numeric
* AIMS\_User\_Comment
  + Any comment entered by the user
* AIMS\_User\_Entered\_TS
  + The time when the preop note was recorded
* AIMS\_Preop\_Concept\_Desc
  + The preop note type name
  + AIMS\_Preop\_Concept\_ID is typically a numerical identifier whereas AIMS\_Preop\_Concept\_Desc is a readable name

## Columns (AIMS\_PreopDetails)

* MPOG\_Preop\_Note\_ID
  + The parent note which this record belongs to
* MPOG\_Preop\_Detail\_Concept\_ID
  + The MPOG classification of the preop note type
  + This can be found by joining to the Configuration\_PreoperativeConcepts table on AIMS\_Preop\_Concept\_ID = AIMS\_Concept\_ID
* MPOG\_Deleted\_CD
  + A code that represents whether the note was deleted by the user
  + Refer to MPOG\_Enumerations for a list of possible values
* AIMS\_Preop\_Concept\_ID
  + The AIMS classification identifier of the preop note type
* AIMS\_Value\_Text
  + Stores text based values
  + This column is mutually exclusive with AIMS\_Value\_Numeric
* AIMS\_Value\_Numeric
  + Stores the numeric value of the record
  + This column is mutually exclusive with AIMS\_Value\_Text
* AIMS\_Value\_CD
  + Stores any code used in the source system to represent the value in the AIMS\_Value\_Text or AIMS\_Value\_Numeric columns
  + This column is optional and should be used only if such a code exists
* AIMS\_Value\_DT
  + The datetime based value of the preop note
  + Can co-exist with a value in AIMS\_Value\_Text and AIMS\_Value\_Numeric
* AIMS\_Preop\_Concept\_Desc
  + The preop note type name
  + AIMS\_Preop\_Concept\_ID is typically a numerical identifier whereas AIMS\_Preop\_Concept\_Desc is a readable name

# IV Sites (AIMS\_Sites)

The AIMS\_Sites table stores the IV sites used during an operation.

## Tips and Warnings

* This table is generally one of the harder ones to write extract scripts for, due to the large variation in how various AIMS store IV sites.

## Columns

* MPOG\_Site\_ID
  + This identifier is generated on insert and thus should be ignored
* MPOG\_Case\_ID
  + The MPOG case identifier (defined in AIMS\_IntraopCaseInfo)
* MPOG\_Site\_Type\_ID
  + The MPOG classification of the site type (e.g. Single-Lumen, Epideral, etc.)
  + This can be found by joining to the Configuration\_Sites table on AIMS\_Site\_Type = AIMS\_Concept\_ID and MPOG\_Concept\_Type\_ID = 15
* MPOG\_Site\_Location\_ID
  + The MPOG classification of the site location (e.g. hand, arm, leg, etc.)
  + This can be found by joining to the Configuration\_Sites table on AIMS\_Site\_Location = AIMS\_Concept\_ID and MPOG\_Concept\_Type\_ID = 13
* MPOG\_Site\_Side\_ID
  + The MPOG classification of the site side (e.g. left, right)
  + This can be found by joining to the Configuration\_Sites table on AIMS\_Site\_Side= AIMS\_Concept\_ID and MPOG\_Concept\_Type\_ID = 16
* MPOG\_Site\_Size\_ID
  + The MPOG classification of the site size (e.g. 12 g)
  + This can be found by joining to the Configuration\_Sites table on AIMS\_Site\_Size= AIMS\_Concept\_ID and MPOG\_Concept\_Type\_ID = 14
* MPOG\_PreExisting\_Site\_CD
  + A code representing whether the site already existed prior to the patient being in room
  + Refer to MPOG\_Enumerations for a list of possible values
* MPOG\_Discontinued\_CD
  + A code representing whether the site was discontinued during the operation
  + Refer to MPOG\_Enumerations for a list of possible values
* AIMS\_Site\_ID
  + An identifier that uniquely identifies the site in the AIMS.
  + Such an identifier may not exist and therefore needs to be manufactured
  + This identifier, even if manufactured, is helpful is tracking where a particular record came from
* AIMS\_Site\_Label
  + A description of the site (e.g. “Left Arm 20 g”)
* AIMS\_Site\_Type
  + A description of the site type from the AIMS
* AIMS\_Site\_Type\_CD
  + The AIMS site type identifier
* AIMS\_Site\_Location
  + A description of the site location from the AIMS
* AIMS\_Site\_Location\_CD
  + The AIMS site location identifier
* AIMS\_Site\_Side
  + A description of the site side from the AIMS
* AIMS\_Site\_Side\_CD
  + The AIMS site side identifier
* AIMS\_Site\_Size
  + A description of the site type from the AIMS
* AIMS\_Site\_Size\_CD
  + The AIMS site size identifier
* AIMS\_Site\_Attempts
  + The number of times the site was attempted
* AIMS\_Site\_Discontinued\_DT
  + The time when the site was discontinued (if appropriate)
* AIMS\_Site\_Comment
  + Any comment entered by the user
* AIMS\_Site\_Placed\_DT
  + The time when the site was placed

# Diagnosis Codes (AIMS\_BillingDiagnoses)

The AIMS\_BillingProcedures table stores the diagnosis codes that where billed for a particular patient and if possible, the associated operation.

## Columns

* MPOG\_Billing\_Diagnosis\_ID
  + This identifier is generated on insert and thus should be ignored
* MPOG\_Patient\_ID
  + The MPOG patient identifier
* MPOG\_Case\_ID
  + The MPOG case identifier (if appropriate)
  + This column is optional as some procedures occur outside of an operation
* AIMS\_Encounter\_Number
  + The visit during which the procedure occurred
* MPOG\_Billing\_Source\_CD
  + The source billing system from which the record was extracted
  + Refer to MPOG\_Enumerations for possible values
* AIMS\_Date\_Of\_Service\_Start\_DT
  + When the hospital service started
* AIMS\_Date\_Of\_Service\_End\_DT
  + When the hospital service ended
* AIMS\_Diagnosis\_Code
  + The diagnosis code (usually a ICD-9 or ICD-10 code)
* AIMS\_Diagnosis\_Priority
  + The relative rank of the diagnosis code. Used to identify the primary diagnosis.
* MPOG\_Lexicon\_Type\_CD
  + A code used to describe what kind of diagnosis code is this record is using (e.g. ICD-9 codes)
  + Refer to MPOG\_Enumerations for a list of possible values
* MPOG\_Present\_On\_Admission\_CD
  + A code describing whether the diagnosis was present on admission

# Procedure Codes (AIMS\_BillingProcedures, AIMS\_BillingModifiers)

The AIMS\_BillingProcedures table stores the procedure codes that where billed for a particular patient and if possible, the associated operation.

The AIMS\_BillingModifiers table is a child table of AIMS\_BillingProcedures that records any billing modifier codes that were applied to the parent record.

## Tips and Warnings

* The AIMS\_BillingProcedures table is primarily used to store CPT codes, but other lexicons can be used.
* Procedure modifiers must be extracted after procedure codes as it relies on the generated procedure id.

## Columns (AIMS\_BillingProcedures)

* MPOG\_Billing\_Procedure\_ID
  + This identifier is generated on insert and thus should be ignored
* MPOG\_Patient\_ID
  + The MPOG patient identifier
* MPOG\_Case\_ID
  + The MPOG case identifier (if appropriate)
  + This column is optional as some procedures occur outside of an operation
* AIMS\_Encounter\_Number
  + The visit during which the procedure occurred
* MPOG\_Billing\_Source\_CD
  + The source billing system from which the record was extracted
  + Refer to MPOG\_Enumerations for possible values
* AIMS\_Date\_Of\_Service\_Start\_DT
  + When the procedure started
* AIMS\_Date\_Of\_Service\_End\_DT
  + When the procedure ended
  + This column is only relevant for rows being billed from the anesthesiology
* AIMS\_Procedure\_Code
  + The procedure code (usually the CPT code)
* MPOG\_Lexicon\_Type\_CD
  + A code used to describe what kind of procedure code is this record is using (e.g. CPT codes)
  + Refer to MPOG\_Enumerations for a list of possible values
* AIMS\_Total\_Anesthesia\_Units
  + The number of anesthesia units billed by the anesthesiologist
  + This column is only relevant for rows being billed from the anesthesiology
* AIMS\_Procedure\_Priority
  + The relative rank of the procedure code. Used to identify the primary procedure performed for the operation

## Columns (AIMS\_BillingModifiers)

* MPOG\_Billing\_Procedure\_ID
  + The identifier of the parent row
* AIMS\_Modifier
  + The billing modifier applied to the parent procedure code
* MPOG\_Modifier\_Concept\_ID
  + The MPOG classification of the modifier code

# Provider Identifiers (AIMS\_PhiDictionary)

This table stores terms that can used to identify providers at your institution. Entries in this table are used by the PHI scrubbing application to remove provider identifiers from free text fields.

## Tips and Warnings

* This table is often confused with the MPOG\_PhiDictionary table. Both serve to help the PHI scrubbing application, but the MPOG dictionary is provided by MPOG. You should only insert rows into the AIMS dictionary table.
* A word being inserted into this table does not guarantee that the word will be removed by the PHI scrubber. The scrubber tends to preserve medical terms, so a provider that shares a name with a common procedure or implement may not be scrubbed.
* Prevent low digit staff identifier codes from being inserted into this table. Failure to do so will cause numbers in intraoperative notes to be scrubbed.

## Columns

* AIMS\_DictionaryWord
  + The word that should be removed
  + Do not include phrases or strings with whitespace as they will be ignored.
* MPOG\_DictionaryType\_Concept\_ID
  + The MPOG classification of what kind of identifier the AIMS\_DictionaryWord is. Only use MPOG concepts 19017-19020 (Staff first names, last names, initials, and identifier codes).