GLOBAL MEDICAL RESOURCE INCLUSION GUIDE

The Global Medical Resources are very important to our Species360 member institutions. This document explains what data is included in the Resources and what data is excluded from the Resource. The source of the data included in the Resources is anonymous and specific Institutions are not indicated.

Each Resource description has four parts:
- Purpose – What information the Resource provides
- Disclaimer – A statement of Species360 responsibility regarding the Resource
- Data Set Selection
  - Include – Records that will be included in the Resource
  - Exclude – Records that will NOT be included in the Resource
- Publish the Resource – What is displayed in the Resource and how often it is recalculated/republished

Contact support@Species360.org

List of Global Medical Resources

Anesthesia Summaries (and local anesthesia summaries)

Drug Usage Extract

Test Results
- Search by Test
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Morbidity and Mortality
- Most Common Clinical Issues
- Relevant Death Information Analysis

Anesthesia Summaries

Purpose: To provide Users with a species-level summary of the drugs and dosages used by member institutions to induce anesthesia and the associated complications for each protocol.
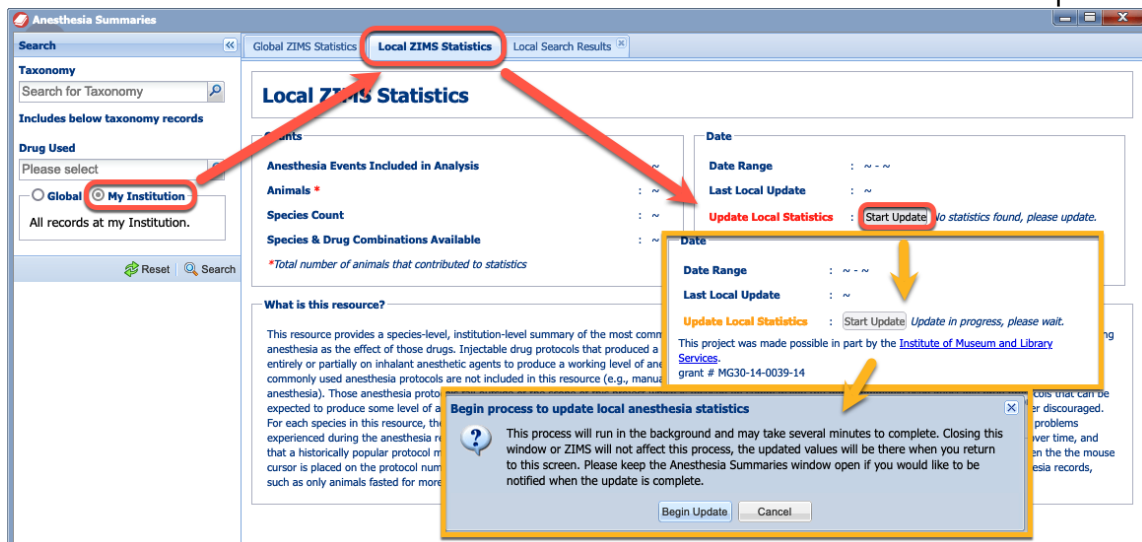
Disclaimer: This resource is informational only and represents the combined experience of member institutions as reported to Species360. There is no implied endorsement of any anesthesia protocol listed or any guarantee of safety when used on an individual animal.

Data Set Selection: The main goal is to include the highest quality data for analysis and exclude all records that contain bad or suspect data

Local Data Selection:

ZIMS can calculate summaries using your local anesthesia records, providing reference for immobilizations at your institution.

- These calculations are run on-demand and take several minutes to complete.

- The local summaries have the same filter options as the global summaries, but do not require the 10-record minimum that is required for the global summary.

- **Included:**
  - If all initial drugs (protocol drugs) are linked to a global drug entry in the drug dictionary.
  - If animal record is shared globally (assigned to a Collection marked as Global scope).
- **Excluded:**
  - If an initial drug (protocol drug) is in a local drug entry in the drug dictionary; it is impossible to really know what drug was used. NOTE: If one of your local drug entries gets elevated to a global drug entry you will receive a Post Office message.
  - If an animal record is not shared globally (assigned to a Collection marked as Local scope).
  - Any incomplete records; we do not attempt to use data from partial records. Any incomplete records will display in red, not black, in the medical dashboard.
  - All gas inhalation inductions; it is not very useful to tell veterinarians that they can manually restrain an animal and induce anesthesia with a gas anesthetic.
  - All topical drug inductions, usually for fish and amphibians; these will require different analysis.
  - Records where an induction (initial) drug dose was not marked as Complete. It is uncertain how much drug was delivered and we chose to be conservative and exclude from analysis.

- o Records where an induction drug dose cannot be converted to mg; We can't calculate the dosage (mg/kg) if the drug amount is not in mg.
- o If weight associated with the anesthesia event is zero; we need weight to calculate dosage (mg/kg).
- o If induction protocol did not produce anesthesia. The effects and milestones data includes a depth rating of "light anesthesia", "surgical anesthesia" or "deep anesthesia", or a milestone entry of "working depth anesthesia" prior to starting on gas anesthesia. This essentially excludes protocols that only sedate the animal or where effects and milestone records do not have the level of data quality needed. We only need a single milestone or effects record to be marked Complete on the medical dashboard, but we need a higher data quality to be included in the resource.
- **Special Notes:**
  - o If a protocol has less than 10 events, we will discard it. We want a minimum amount of experience with each protocol.
  - o If all events are from a single institution, we will discard it. Our reasoning is it may be a data entry error and, if not, we risk the anonymity of the reporting institution.

Publish the Resource

- For each species show, in rank order, the drug protocols with at least 10 events. If more than 5 protocols meet these criteria, show the top five.
- Recalculated/republished every month.

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Drug Usage Extract

Purpose: To provide Users with a summary, organized by taxon, of the drugs, dosages, administration routes, dosing frequency, prescription duration and adverse effects as recorded by member institutions in their prescription records.

Disclaimer: This resource is informational only and represents the combined experience of member institutions as reported to Species360. There is no implied endorsement of any specific drug treatment or the clinical effectiveness of any drug treatment listed.

Data Set Selection:
- **Included:**
  - o Prescription is for an individual animal in a Collection marked as Global scope.
  - o A weight (can be estimated) is associated with the record for drugs needing mg/kg dosage. This rule does not apply to vaccines.
  - o Prescription drug is linked to a Species360 recognized Global drug. This is drawn mainly from the W.H.O. database.
  - o Record is not part of an anesthesia record; this is a separate resource.

- o Has a none-zero dose value.
- o Dose amount is in mg or can be converted to mg. This rule does not apply to vaccines where UOM must be ml.
- o Administration route is injection (any subcategory) or oral.
- **Excluded:**
    - o Prescription is for an animal in a collection marked as Local scope.
    - o There is no weight associated with the record for drugs needing mg/kg dosage (except for vaccines).
    - o Prescription drug is a locally created entry that is not a translation or synonym for a Global drug.
    - o Has a zero dose value.
    - o Treatment frequency is "Other", "ad libitum" or "as needed".

Publish the Resource:
- Every species + drug + route record group with at least 5 records, derived from at least 2 institutions, will have an entry in the resource.
- Recalculated/republished every week.

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Test Results
Search by Test

Purpose: The Expected Test Results Resource (see below) only consolidates results from Tests that provide a numeric result. Tests that provide other types of results (e.g., a data standard result of positive/negative are not in that Resource. In addition, numeric tests require at least 40 results from healthy animals to generate a reference interval. The Search by Test Resource was designed to allow a User to locate test results that are not summarized in the Expected Test Results Resource, although the search capacity can be on any test. As for all the Global Resources, Test results are displayed to the User in anonymous format to protect member privacy.

Disclaimer: This Resource is informational only and simply displays test results and other information as reported by Species360 member institutions. Unusual and outlier values may represent data entry errors rather than actual Test results values.

Data Set Selection:
- **Included:**
    - o What User selects as the filter criteria
        - Taxonomy (mandatory)
        - Test Name (mandatory)
        - Sample Collection and Analysis Data
            - Sample Type
            - Sample Collection Date

- Restraint Method
- External Laboratory
- Testing Delay
  - Animal Date
    - Geographic Scope (Global / Continent / My Institution
    - Health Status
    - Sex Type
    - Age
    - Antemortem / Postmortem / All
- **Excluded:**
  - No records are excluded

Publish the Resource:
- This is a real time analysis. Test results are retrieved from the Live data when User selects the filter criteria and clicks Run Report or View Graph button.

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Expected Test Results
Purpose: To provide Users with reference intervals for common diagnostic Tests for species and subspecies, calculated from the Test and Results records entered by member institutions. This information supports appropriate interpretation of diagnostic Test results.

Disclaimer: This resource is informational only and represents the combines experience of member institutions as reported to Species360. A Test Result outside the listed reference interval is not an absolute indication of disease or a diagnosis, but must be interpreted in conjunction with other clinical information.

Data Set Selection:
- **Included:**
  - Test Results from animals in a Collection marked as Global scope.
  - Only Tests with expected numeric result.
  - Results where animal Health Status was Normal.
- **Exclude:**
  - Test Results from animals in a Collection marked as Local scope.
  - All Tests that have a data standard, text or taxonomic result.
  - Results where animal Health Status is other than Normal.
  - Any Tests flagged as Exclude from Norms analysis.
  - Results where associated Sample is marked a Deteriorated.
  - Any tests not flagged for default Reference Interval analysis (e.g., some hormones fluctuate so much over a period of days to weeks that a Reference Interval has no clinically useful meaning.

- **Special Note:**
  - Data sets from a single institution are discarded as that affects the anonymity of the institution
  - **Global Species/Subspecies Reference Intervals** include valid calculations from at least 40 results obtained from healthy (Health Status = Normal) animals
  - **Global Basic Statistics** are when the dataset for the Species/Subspecies contains only 5- - 39 results obtained from healthy (Health Status = Normal). A valid reference interval cannot be calculated, but the resource provides the Mean, Median and the High and Low values of the existing results

Publish the Resource:
- For each Species or Subspecies, publish all valid Reference Intervals and Basic Statistics
- Recalculate/republish every month

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Morbidity and Mortality
Most Common Clinical Issues

Purpose: To provide Users with a summary, derived from diagnosis records and organized by species, of the clinical issues reported by member institutions. This information can assist with generating differential diagnosis lists for an active clinical case.

Disclaimer: This resource is informational only and represents the combined experience of member institutions as reported to Species360. The listed diseases and other medical problems do not represent a complete list of clinical issues for a species and are not an indication of the prevalence or incidence of the diagnosis in the general population.

Data Set Selection:
- **Included:**
  - Diagnosis record is for an individual animal recorded in a Collection marked as Global scope.
  - Diagnosis record contains the global Species360 term that is type "Medical Condition/Syndrome/Disorder"
  - Animal must have a taxonomic rank of Species or below (Subspecies, Breed, etc.)
- **Excluded:**
  - Diagnosis record is for an individual animal recorded in a Collection marked as Local scope.
  - Diagnosis record does not include a type "Medical Condition/Syndrome/Disorder"

Publish the Resource:

- Every Species + Medical Problem grouping with at least 10 records
- If a Species has more than 5 problem groupings with the required 10 records, show the top 5 groupings, regardless of grouping size (some Species will not have even 5 groupings).
- Recalculate/republish every week

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Relevant Death Information Analysis

Purpose: To provide Users with a summary of relevant data associated with the death of an animal derived from the death records reported by member institutions. This information can assist with determining the important disease and factors associated with mortality within a taxonomic group.

Disclaimer: This resource is informational only and represents the combines experience of member institutions as reported to Species360.

Data Set Selection:
- **Included:**
    - All Relevant Death Information records for animals recorded in a Collection marked as Global scope
    - Data selected by User in the filter options:
        - Taxonomy (mandatory)
        - Geographic scope: Global / Continent / My Institution
        - Animal Accession Type
        - Death Date Range
- **Excluded:**
    - All RDI records for animals recorded in a Collection marked as Local

Publish the Resource:
- Calculations and graphing are done from the Live data when Users selects filter criteris and clicks View Graph button
- Real-time analysis

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