Pathology - Necropsy and Biopsy in ZIMS

Tracking data on disease processes and death records
Contact Species360 Support

From the Medical Dashboard in ZIMS you can initiate a pathology record from the New menu dropdown or with the keyboard short cuts of:
- Shift+N = Necropsy/Death record
- Shift+B = Biopsy record
- Learn more about Incomplete Dispositions here...

Necropsy
The death screens in ZIMS Medical include tabs for:
1. Submission
2. Case Information
3. Gross Necropsy
4. Samples and Tests (associated with the Necropsy)
5. Measurements (associated with the Necropsy)
6. Histopathology
7. Images
8. Finalization of the record

1) Submission information: captures the core details on the animal who has died. Creating a necropsy record triggers the death disposition event that will be entered into the incomplete dispositions/transaction tab of the animals main husbandry record.

Learn more about Incomplete Dispositions here...

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Required fields on this screen include:
Animal ID (plus a carcass count if a group necropsy is being initiated), Date Submitted, Death Date, Manner of Death and Death Location.

Additional fields on this screen include:
Submitted by, Date Discovered, Carcass Weight and note boxes capturing Recent History/Observation Note and Special Requests.

Once you have 'Saved' the Submission screen you are able to enter details on the remaining tabs of the necropsy record. Saving a submission also generates a calendar item for the pathologist defined in your institutional preferences.

Note, it is typical for husbandry staff to be the responsible parties for necropsy submissions.
Supporting this workflow, ZIMS roles allow you to grant access to just creating a submission record to husbandry staff via a special role. They will not have to have access to the remainder of the pathology record.

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2) **Case information**: captures the business information about the case number (death number, pathology number) and additional aspects of the business processes surrounding death records.

Required fields on this screen include:
Responsible Pathologist--this is a staff lookup from the my institution staff options or from the Contact Directory in ZIMS.

Additional fields on this screen include:
Pathology Case Number, Parties to get copy of final report selector, Responsible Resident, Death Number grid (to list multiple possible death numbers) as well as notes fields for Workflow Notes and Additional Case Comments. Finally there is a note field that will show for the husbandry staff in their note stream called: Necropsy Case Info for Husbandry Staff (R1 Note).

Additionally you have the option to see the animals Medical Records or view a Medical Summary for the animals from this screen.

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3) Gross Necropsy: This is where the initial details of the necropsy report are collected along with possible diagnosis and interpretations.

![Gross Necropsy screenshot]

Required fields on this screen include:
Necropsy date and Location (a look up of external laboratories in your institution list or Enclosures at your institution).

Additional fields on this screen include:
Carcass Condition Code, Responsible party (staff look up or eternal contact (this is a staff lookup from the my institution staff options or from the Contact Directory in ZIMS). Also available is a Report details section for: Report written date, Necropsy Report/Description notes field, a Gross/Preliminary Diagnosis grid accepting multiple possible entries, and an Initial Necropsy Comments & Interpretation notes field.

Note: When adding Gross/Preliminary Diagnosis ZIMS will provide you a free text field to enter a suspected diagnosis- as well as stating if the diagnosis is incidental or significant as a contributing factor to death. ZIMS requires that you use commas between the plain text values entered to help the system in generating standardized terms for use in the diagnosis recording. Ex: Acute, Liver, Failure:

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Alternately, you can search the Standardized Terms for values you know to be present and select them to be added to the terms list.

Finally, you can upload copies of Images/Photos/Radiographs related to the necropsy case -- images attached here will display on the Images tab (#7 below).

Notes:
- There is an institutional limit to the amount of image space available. If this limit is reached, contact Support@Species360.org to discuss increasing your limit.
- Radiograph/medical imaging is still under development in the interim if you have the ability to convert your imaging into .jpeg format, the program will still accept it, this includes MRIs/CATs/etc.

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4) Samples and Tests (associated with the Necropsy): Reporting any samples created during the necropsy.
Creating **samples** from a necropsy record opens an embedded sample creation window in ZIMS Medical necropsy module.

Once your samples have been created in the linked samples section, you are able to highlight an individual record and issue a 'request test' directly from the necropsy module as well as view/edit the sample test request.

You can utilize a pre-defined set of commonly collected samples using the integrated 'Use Sample Template' option.
Notes:
- The sample screen has an additional field called 'Collected from dead animal' that is selected by default when creating a linked sample.
- Samples and Tests from the necropsy record do not appear in the Medical Dashboard but biopsy linked samples and tests will.

5) Measurements (associated with the Necropsy): Providing a location to record measurements of weights and lengths of all biomaterial included in the necropsy.
Required fields on this screen include:
For weights: Measurement Date/Time, Organ/Anatomical Site and Measurement Value.
For lengths: Measurement Date/Time, Internal Organ or External body measurement radio-button, Measurement type and Measurement Value.

Additional fields on this screen include:
For weights: Measured by, Measurement equipment, Estimate, Exclude from norms and an association note.
For lengths: Measured by, Measurement equipment, Estimate, Exclude from norms and an association note.

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6) Histopathology: Tracking tissue specific analysis completed in conjunction with a necropsy report.
Required fields on this screen include:
External Laboratory or My Institution radio button, Histopathology Report Date, Responsible Pathologist and Histopathology Report notes box.

Additional fields on this screen include:
Tissue Trim date, Trimmed by (staff selector), Tissue processing submission date, Tissue processing completion date and Histopathology report by (staff selector).
Additionally, similar to the necropsy screen you can provide Histopathological diagnosis and attached copies of Images/Photos/Radiographs supporting the Histopathology record.

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7) Images: Images added under Gross Necropsy and Histopathology tab show here, along with the ability to note the number of additional offline images that are related but not attached to the ZIMS record.

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8) **Finalization of the record**: Completing the necropsy case, confirming final diagnosis and closing (protecting) the record from further editing.
Required fields on this screen include:
Finalization Date.

Additional fields on this screen include:
Relevant Death information (copied from initial death report), Multiple-select grid of possible diagnosis sourced from the Gross Necropsy and Histopathology tabs offered as "Significant Contributors to Death".

Additionally, there are two notes grids, one called Final Summary that contains the physicians final case notes and the Necropsy Case Info for Husbandry Staff (R1 Note) visible in the husbandry side of ZIMS and can contain information adapted to the husbandry audience.

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Finalization Notes:
- Relevant death information is filled in from death transaction if initiated on Husbandry side of ZIMS.
- Necropsy Case Info for Husbandry Staff (R1 Note) is the exact same field as offered under gross necropsy tab but it is updatable with final notes.
- Finalizing locks all tabs and only the addendum on the Finalize tab is active.

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-Unlocking a necropsy record can only occur by Medical Admin (SPECIES360) role holders in ZIMS. Once unlocked, the audit trail will show the actions of locking/unlocking along with the dates and responsible parties.

**Biopsy**

The biopsy screens in ZIMS Medical include tabs for:

1. Submission
2. Case Information
3. Preliminary Examination
4. Samples and Tests (associated with the Biopsy)
5. Histopathology
6. Images
7. Finalization of the record

1) **Submission**: Basic details on samples collected for biopsy. Once this tab is filled out and 'saved' the remaining 6 tabs become active.
Required fields on this screen include:
Animal ID, Date Submitted, Submitted by (staff look up) and either a existing sample or new sample radio button option.

Additional fields on this screen include:
Recent History/Observation Notes box is available.

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2) Case Information
: captures the business information about the case number (Animal information copied from selected animals record, pathology case number) and additional aspects of the business processes surrounding death records.
Required fields on this screen include:
Responsible Pathologist–this is a staff lookup from the my institution staff options or from the Contact Directory in ZIMS.

Additional fields on this screen include:
Pathology Case Number, Parties to get copy of final report selector as well as notes fields for Workflow Notes and Additional Case Comments.
Finally there is a note field that will show for the husbandry staff in their note stream called: Biopsy Case Info for Husbandry Staff (R1 Note).

Additionally you have the option to see the animals Medical Records or view a Medical Summary for the animals from this screen.

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3) Preliminary Examination: This is where the initial details of the biopsy report are collected along with possible diagnosis and interpretations.
Required fields on this screen include:
Biopsy info: Gross Examination by (staff look up or eternal contact (this is a staff lookup from the my institution staff options or from the Contact Directory in ZIMS).

Additional fields on this screen include:
Biopsy tissue/Description notes field, a Preliminary Diagnosis grid accepting multiple possible entries, and an Initial Biopsy Comments & Interpretation notes field.

Note: When adding Preliminary Diagnosis ZIMS will provide you a free text field to enter a suspected diagnosis- as well as stating if the diagnosis is incidental or significant as a contributing factor to death. ZIMS requires that you use commas between the plain text values entered to help the system in generating standardized terms for use in the diagnosis recording. Ex: Acute, Liver, Failure:
Alternately, you can search the Standardized Terms for values you know to be present and select them to be added to the terms list.

Finally, you can upload copies of Images/Photos/Radiographs related to the biopsy case -- images attached here will display on the Images tab (#6 below).

Notes:
- There is an institutional limit to the amount of image space available. If this limit is reached, contact Support@Species360.org to discuss increasing your limit.
- Radiograph/medical imaging is still under development in the interim if you have the ability to convert your imaging into .jpeg format, the program will still accept it, this includes MRIs/CATs/etc.

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4) Samples and Tests (associated with the Biopsy): Reporting any samples created during the biopsy.
Creating **samples** from a biopsy record opens an embedded sample creation window in ZIMS Medical biopsy module.

Note: The sample screen has an additional field called 'Collected from dead animal' that is selected by default when creating a linked sample.

Once your samples have been created in the linked samples section, you are able to highlight an individual record and issue a **request test** directly from the biopsy module as well as view/edit the sample test request.

**5) Histopathology:** Tracking tissue specific analysis completed in conjunction with a biopsy report.
Required fields on this screen include:
External Laboratory or My Institution radio button, Histopathology Report Date, Responsible Pathologist and Histopathology Report notes box.

Additional fields on this screen include:
Tissue Trim date, Trimmed by (staff selector), Tissue processing submission date, Tissue processing completion date and Histopathology report by (staff selector).
Additionally, similar to the necropsy screen you can provide Histopathological diagnosis and attached copies of Images/Photos/Radiographs supporting the Histopathology record.

Click here for more information on linking to documents outside of ZIMS in your notes.

6) Images: Images added under Preliminary Examination and Histopathology tab show here, along with the ability to note the number of additional offline images that are related but not attached to the ZIMS record.
7) **Finalization of the Record:** Completing the biopsy case, confirming final diagnosis and closing (protecting) the record from further editing.
Required fields on this screen include:
Finalization Date.

Additional fields on this screen include:
Responsible Pathologist and resident (copied from initial death report), a grid of related diagnosis sourced from the Preliminary Examination and Histopathology tabs offered as "diagnosis".

Additionally, there are two notes grids, one called Final Summary that contains the physicians final case notes and the Biopsy Case Info for Husbandry Staff (R1 Note) visible in the husbandry side of ZIMS and can contain information adapted to the husbandry audience.

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**Finalization Notes:**
- Biopsy Case Info for Husbandry Staff (R1 Note) is the exact same field as offered under Preliminary Examination tab but it is updatable with final notes.
- Finalizing locks all tabs and only the addendum on the Finalize tab is active.
- Unlocking a biopsy record can only occur by Medical Admin (SPECIES360) role holders in ZIMS. Once unlocked, the audit trail will show the actions of locking/unlocking along with the dates and responsible parties.
Incomplete Dispositions

When a necropsy is started on the ZIMS Medical side, except for ‘group necropsy’, an Incomplete disposition is created on the Animal Statistics page:

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The Medical Necropsy does not alter the inventory count, the Incomplete Disposition must be processed (Accepted/Rejected) in the My Transactions tab to finalize the death:

On the My Transactions – Death Record:

- Date
- Discovered Date
- Manner of Death
- Submitted for Necropsy

Are sourced from the Necropsy Submission tab – permissions can be granted to JUST the submission tab to non-medical staff in the Medical Roles

From the Finalize tab in Necropsy:

- Primary Body System
- Relevant Death Info

Note, these are currently connected, if they are changed in Husbandry or Medical, they change in both locations.
What else is Visible from Medical?

The following data entered in a Necropsy are visible inside the Husbandry view:

- When Incomplete Disposition is accepted, and death transaction added, global status changes to ‘dead’ – this is managed separately from the Medical record
- Dead animal weights are visible in the Weights grid. These are ‘read only’ and visibility in Husbandry can be disabled from view under the Institutional Preferences menu
- Notes added under the “Husbandry Staff R1 Note” box edited under Case Info and Finalize Case Info tabs in Medical will be ‘read only’ visible in the Husbandry Notes

Additional Documents:
- 2009 - Pathology
- 2001 - Incomplete Accessions and Dispositions

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