**Data Abstraction Form :**

Investigation of Mucormycosis Disease among Bone Marrow Transplant Patients

Initials: \_\_\_\_\_\_\_\_

Case #: \_\_\_\_\_\_\_\_

Medical Record #: \_\_\_\_\_\_\_\_\_\_\_\_

Date of Birth: [ ] [ ] /[ ] [ ] /[ ] [ ] [ ] [ ]

Reviewers Initials: \_\_\_\_\_\_\_\_

Review Date: \_\_\_\_\_\_\_\_

***Case of Mucormycosis Infection of Interest***

Bone marrow transplant patients with stays in unit 41 and 42 with any presentation of a mucormycosal infection excluding gastrointestinal

WITH

Histopathological or cytopathological examination showing hyphae from needle aspiration or biopsy specimen with evidence of associated tissue damage (either microscopically or as an infiltrate or lesion by imaging)

OR

Positive culture result for a sample obtained by sterile procedure from normally sterile and clinically or radiologically abnormal site consistent with mucormycosal infection.

***Matched Controls***

Bone marrow transplant patients (Preferred) with stays in unit 41 and 42:

* a date of birth is within five years of the matched mucormycosis case’s birthday
* with matched hematologic malignancy (See section II)

Other major risk factors we will assess for and enough controls present, we can consider matching for diabetes status, diabetic ketoacidosis, blood iron overload condition, chronic high-dose corticosteroids use. If necessary we can also expand the control group to hematopoietic stem cell transplant from unit 41, or from unit 41 and 42.

**Case-Case Abstraction Form**

**Section I: Demographic and Admission Data**

1. Age at diagnosis (years): \_\_\_\_\_\_\_\_\_\_
2. Gender: \_\_\_\_\_\_\_\_\_\_(0= Male, 1= Female)
3. Race (Select all that apply): \_\_\_\_\_\_\_\_\_\_

(0=white/Caucasian, 1=black/African-American, 2=Asian, 3=American Indian/Alaskan, 4=Hawaiian/Pacific Islander, 5=not known)

1. Ethnicity: \_\_\_\_\_\_\_\_\_\_(0=not Hispanic, 1=Hispanic, 2=not known)
2. County: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 City: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Phone #: [ ] [ ] [ ] -[ ] [ ] [ ] -[ ] [ ] [ ] [ ]
2. Date of admission (mm/dd/yy): [ ] [ ] /[ ] [ ] /[ ] [ ]
3. Admit diagnosis: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Section II: Underlying Medical Conditions and Risk Factors (at time of admission or before onsets, check all that apply)**

1. General Medical Conditions: ⁯[ ]  None
[ ]  Bone Marrow Transplant
[ ]  Other hematopoietic stem cell transplant
[ ]  Diabetes [not Diabetic Ketoacidosis (DKA)]
[ ]  Last Hemoglobin A1C level \_\_\_\_\_\_\_\_\_\_\_\_

[ ]  Diabetic Ketoacidosis (DKA) during stay on unit

[ ]  Hemochromatosis

[ ]  Thalassemia

[ ]  Transfusion-induced iron overload in the 14 days before or during say on unit

[ ]  Iron overload for any other reason and/or iron chelation therapy within 14 days prior to exposure to the unit (Desferrioxamine therapy)

1. Immunocompromised State: ⁯[ ]  None

 [ ]  Solid organ transplant (ever)

 [ ]  renal ⁯[ ]  liver ⁯[ ]  lung [ ]  heart [ ]  other (specify) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 If transplant recipient, date of most recent transplant (mm/dd/yy): \_\_\_\_/\_\_\_\_/\_\_\_\_

[ ]  Solid tumor malignancy (specify type): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 If history of solid tumor, on or had been on chemotx in the 14 days before culture?

[ ]  Yes [ ]  No [ ]  Unknown

[ ]  History of stem cell transplant

[ ]  Neutropenia (< 500 neutrophils per mm3) within 14 days prior to onset (or admission?)

 Total number of neutropenic days within 14 day period: \_\_\_\_\_\_\_\_\_\_\_or [ ]  Unknown

[ ]  Systemic corticosteroids at avg dose ≥0.3 mg/kg/day prednisone (or equivalent) for > 3 weeks

[ ]  Chronic Granulomatous Disease

[ ]  Other \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (specify)

***Hematologic malignancy***

[ ]  Leukemia

[ ]  Acute myeloid leukemia (AML) (e.g. M0-M7)

[ ]  Chronic myeloid leukemia (CML) (e.g. Chronic phase, Accelerated phase, Blast crisis)

[ ]  Acute lymphocytic leukemia (ALL) (e.g. L1-L3)

[ ]  Chronic lymphocytic leukemia (CLL) (e.g. B cell origin, T cell origin, Adult T cell leukemia, Sezary
 syndrome, Unclassified)

[ ]  Hodgkin’s disease (e.g. Lymphocyte predominant, Lymphocyte rich, Nodular sclerosis, Hairy cell leukemia,
 Mixed cellularity, Lymphocyte depleted, Large, granular lymphocyte leukemia)

 [ ]  Non-Hodgkin’s lymphoma (e.g. B cell origin, T cell origin)

 [ ]  Aplastic anemia

 [ ]  Multiple myeloma

 [ ]  Myelodysplastic syndrome (e.g. RA, RARS, RAEB-1, RAEB-2, RCMD, RCMD/RS, 5q syndrome, CMML)

[ ]  Sickle cell anemia

 [ ]  Other \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

If history of heme malignancy, on or had been on chemotx in the 14 days before culture?

[ ]  Yes [ ]  No [ ]  Unknown

Graft**-**versus-host disease:

[ ]  Acute; if yes, record grade (I-IV) \_\_\_\_\_\_\_\_\_\_

 [ ]  Chronic; if yes, check one: [ ]  limited [ ]  extensive [ ]  unknown

[ ]  None

[ ]  Unknown

**Section III: Location**

1. Did this patient have any prior **INPATIENT** hospitalizations within 30 days prior to the current admission?

(Include ALL hospitalizations, including those not at Hospital A)

[ ]  Yes *(fill out table below, with most recent hospital admissions)* [ ]  No [ ] Unknown

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Facility Name** | **Admission Dates** (mm/dd/yy)-(mm/dd/yy) | **Ward/Bed**(complete for each location) | **First date at location** | **Last date at location** |
|  |  |  | [ ] [ ] /[ ] [ ] /[ ] [ ]   [ ]  Unk | [ ] [ ] /[ ] [ ] /[ ] [ ]   [ ]  Unk |
|  |  |  | [ ] [ ] /[ ] [ ] /[ ] [ ]   [ ]  Unk | [ ] [ ] /[ ] [ ] /[ ] [ ]   [ ]  Unk |

1. Where was patient admitted from?

[ ]  Home

[ ]  Nursing home/subacute care facility

[ ]  Other acute care hospital

[ ]  Rehabilitation

[ ]  Other (specify): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

[ ]  Unknown

1. Room history during current admission:

|  |  |  |
| --- | --- | --- |
| **Ward/Room** | **First date at location** | **Last date at location (or Unk)** |
|  | [ ] [ ] /[ ] [ ] /[ ] [ ]  [ ]  Unk | [ ] [ ] /[ ] [ ] /[ ] [ ]  [ ]  Unk |
|  | [ ] [ ] /[ ] [ ] /[ ] [ ]  [ ]  Unk | [ ] [ ] /[ ] [ ] /[ ] [ ]  [ ]  Unk |
|  | [ ] [ ] /[ ] [ ] /[ ] [ ]  [ ]  Unk | [ ] [ ] /[ ] [ ] /[ ] [ ]  [ ]  Unk |
|  | [ ] [ ] /[ ] [ ] /[ ] [ ]  [ ]  Unk | [ ] [ ] /[ ] [ ] /[ ] [ ]  [ ]  Unk |

**Section IV: Laboratory**

1. Did patient have a positive Mucor culture? [ ]  Yes [ ]  No [ ]  Unknown

|  |  |  |
| --- | --- | --- |
| **Culture Date**(mm/dd/yy) | **Specimen Site/Type****(blood, sputum, pleural fluid, CSF, etc)** | **Organism** |
| [ ] [ ] /[ ] [ ] /[ ] [ ]   |  |  |
| [ ] [ ] /[ ] [ ] /[ ] [ ]   |  |  |

1. Did patient have a positive Mucor pathology finding? [ ]  Yes [ ]  No [ ]  Unknown

 If yes, please complete table:

|  |  |  |
| --- | --- | --- |
| **Date** (mm/dd/yy) | **Anatomical site**  | **Organism/Description of Fungal Elements**  |
| [ ] [ ] /[ ] [ ] /[ ] [ ]  |  |  |
| [ ] [ ] /[ ] [ ] /[ ] [ ]  |  |  |

1. If patient had a head CT, please list date: [ ] [ ] /[ ] [ ] /[ ] [ ]

 [ ]  Cavernous sinus thrombosis

[ ]  Changes to the orbit

[ ]  Semiacute right frontal lobe infarct

[ ]  Diffuse sinusitis

Describe other findings: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. If patient had a head MRI, please list date: [ ] [ ] /[ ] [ ] /[ ] [ ]

 [ ]  Cavernous sinus thrombosis

[ ]  Changes to the orbit

[ ]  Semiacute right frontal lobe infarct

[ ]  Diffuse sinusitis

Describe other findings: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Does the patient have a history of positive cultures for Mucor? [ ]  Yes [ ]  No [ ]  Unknown

 If yes, date of previous culture : [ ] [ ] /[ ] [ ] /[ ] [ ]

**Section V: Medications/Procedures**

1. Has patient received immunosuppressive medications (including chemotherapy) within 30 days of the index culture date? [ ]  Yes [ ]  No [ ]  Unknown

 If yes, please list: 1) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 2) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 3) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 4) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 5) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Did the patient receive systemic antifungal medication in the 30 days prior to the date of index culture that were given for reasons other than treatment of the current infection (i.e. prophylaxis or treatment of another fungal infection)? **DO NOT** include drugs given to treat the current infection.

 [ ]  Yes *(fill out the table below)* [ ]  No [ ]  Unknown

|  |  |  |  |
| --- | --- | --- | --- |
| **Antifungal drug** | **Given?** | **Total days of therapy in 30-day period** | **Date of last dose prior to first culture (mm/dd/yy)** |
| Amphotericin B  (Polyene Antifungal) [ ]  Fungizone,  (Lipid-based Polyene Antifungal) [ ]  Amphotec [ ]  Abelcet  [ ]  AmBisome [ ]  Amphocil,  [ ]  ABLC [ ]  ABCD | [ ]  Yes[ ]  No[ ]  Unknown |  | [ ] [ ] /[ ] [ ] /[ ] [ ]   [ ] Unk |
| Anidulafungin (Eraxis) (an Echinocandin) | [ ]  Yes[ ]  No[ ]  Unknown |  | [ ] [ ] /[ ] [ ] /[ ] [ ]   [ ] Unk |
| Caspofungin (Cancidas) (an Echinocandin) | [ ]  Yes[ ]  No[ ]  Unknown |  | [ ] [ ] /[ ] [ ] /[ ] [ ]   [ ] Unk |
| Fluconazole (Diflucan) (an Azole) | [ ]  Yes[ ]  No[ ]  Unknown |  | [ ] [ ] /[ ] [ ] /[ ] [ ]   [ ] Unk |
| Flucytosine (5FC) (a Nucleoside Analog Antifungal) | [ ]  Yes[ ]  No[ ]  Unknown |  | [ ] [ ] /[ ] [ ] /[ ] [ ]   [ ] Unk |
| Micafungin (Mycamine) (an Echinocandin) | [ ]  Yes[ ]  No[ ]  Unknown |  | [ ] [ ] /[ ] [ ] /[ ] [ ]   [ ] Unk |
| Posaconazole (Noxafil) (an Azole) | [ ]  Yes[ ]  No[ ]  Unknown |  | [ ] [ ] /[ ] [ ] /[ ] [ ]   [ ] Unk |
| Itraconazole (Sporanox) (an Azole) | [ ]  Yes[ ]  No[ ]  Unknown |  | [ ] [ ] /[ ] [ ] /[ ] [ ]   [ ] Unk |
| Voriconazole (Vfend) (a Triazole) | [ ]  Yes[ ]  No[ ]  Unknown |  | [ ] [ ] /[ ] [ ] /[ ] [ ]   [ ] Unk |

1. Was the patient intubated? [ ]  Yes [ ]  No [ ]  Unknown

*If yes, complete the following questions*:

* 1. Where was the patient intubated? (ER, floor, ICU, field): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	2. Type of intubation: ⁯ [ ]  Oral ⁯[ ]  Nasal
	3. List dates of intubation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	4. Did index culture date occur prior to or after intubation? ⁯[ ]  Prior ⁯ [ ]  After
1. Did the patient have a tracheostomy? [ ]  Yes [ ]  No [ ]  Unknown
	1. If yes, date of tracheostomy? [ ] [ ] /[ ] [ ] /[ ] [ ]
	2. If yes, did index culture date occur prior to or after tracheostomy? ⁯[ ]  Prior ⁯ [ ]  After
2. Did the patient have any inpatient respiratory therapies in the 30 days before the index culture date?

[ ]  Yes [ ]  No [ ]  Unknown

* 1. If yes, check below:

⁯ [ ]  NC O2 [ ]  NC O2 w/ humidified air ⁯[ ]  Nebulized meds (SVN) [ ]  MDIs ⁯

⁯ [ ]  CPAP/BIPAP [ ]  Other \_\_\_\_\_\_\_\_\_\_\_\_ [ ]  None [ ]  Unknown

* + 1. If ‘yes’ to SVN or MDI, fill in the table below:

|  |  |
| --- | --- |
| **Drug** | **Mode of Administration (SVN or MDI)** |
|  |  |
|  |  |
|  |  |

1. Did patient have any procedures within 30 days prior to the index culture date?

[ ]  Yes [ ]  No [ ]  Unknown

 If yes, please check all that apply:

[ ]  Thoracentesis Date: [ ] [ ] /[ ] [ ] /[ ] [ ]

[ ]  Bronchoscopy Date: [ ] [ ] /[ ] [ ] /[ ] [ ]

 Date: [ ] [ ] /[ ] [ ] /[ ] [ ]

 Date: [ ] [ ] /[ ] [ ] /[ ] [ ]

[ ]  Thoracotomy (Chest tube insertion) Date: [ ] [ ] /[ ] [ ] /[ ] [ ]

[ ]  Endoscopy Date: [ ] [ ] /[ ] [ ] /[ ] [ ]

[ ]  Transesophageal echocardiogram Date: [ ] [ ] /[ ] [ ] /[ ] [ ]

[ ]  Surgery (1)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: [ ] [ ] /[ ] [ ] /[ ] [ ]

 OR #:\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 (2)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: [ ] [ ] /[ ] [ ] /[ ] [ ]

 OR #:\_\_\_\_\_\_\_\_\_\_\_\_\_\_

[ ]  Percutaneous/interventional radiology procedure: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
(specify) Date: [ ] [ ] /[ ] [ ] /[ ] [ ]

[ ]  Other \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(specify) Date: [ ] [ ] /[ ] [ ] /[ ] [ ]

**Section VI: Symptoms**

1. Was the onset of symptoms more chronic, over the course of several weeks? [ ]  Yes [ ]  No [ ]  Unknown
2. Manifested as an acute sinus infection? [ ]  Yes [ ]  No [ ]  Unknown
3. Nasal congestion? [ ]  Yes [ ]  No [ ]  Unknown
4. Fever? [ ]  Yes [ ]  No [ ]  Unknown
5. Headache? [ ]  Yes [ ]  No [ ]  Unknown
6. Facial pain? [ ]  Yes [ ]  No [ ]  Unknown
7. Tinnitus? [ ]  Yes [ ]  No [ ]  Unknown
8. Reddish and swollen skin over nose and sinuses? [ ]  Yes [ ]  No [ ]  Unknown
9. Periorbital edema and erythema (Reddish and swollen skin around the eye)? [ ]  Yes [ ]  No [ ]  Unknown
10. Ptosis of the eyelid? [ ]  Yes [ ]  No [ ]  Unknown
11. Visual problems? [ ]  Yes [ ]  No [ ]  Unknown
12. Edema and hypertrophy of the nasal turbinates? [ ]  Yes [ ]  No [ ]  Unknown
13. Edema and hypertrophy of the posterior pharynx? [ ]  Yes [ ]  No [ ]  Unknown
14. Altered mental status? [ ]  Yes [ ]  No [ ]  Unknown
15. Blindness of the eye? [ ]  Yes [ ]  No [ ]  Unknown
16. Dilated pupil? [ ]  Yes [ ]  No [ ]  Unknown
17. Nonreactive pupil? [ ]  Yes [ ]  No [ ]  Unknown
18. Cavernous sinus thrombosis? [ ]  Yes [ ]  No [ ]  Unknown
19. Evidence of spread to the brain? [ ]  Yes [ ]  No [ ]  Unknown
20. Spread to the orbits? [ ]  Yes [ ]  No [ ]  Unknown

**Section VII: Treatment**

1. Did the patient undergo debridment? [ ]  Yes [ ]  No [ ]  Unknown
2. Myringotomy with insertion of a tympanostomy? [ ]  Yes [ ]  No [ ]  Unknown
3. Hyperbaric oxygen therapy (HBO)? [ ]  Yes [ ]  No [ ]  Unknown
4. Did the patient undergo surgery for treatment (not diagnosis) of rhinocerebral mucormycosis?
5. [ ]  Yes [ ]  No [ ]  Unknown
6. If yes, what was the name of the procedure? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(e.g. Frontal lobectomy, Ethmoidectomy, Maxillary sinus antrostomy, Frontal sinusotomy, Sphenoidectomy)

1. Was the patient treated with an antifungal after the infection was diagnosed? [ ]  Yes [ ]  No [ ]  Unknown

If yes, complete table:

|  |  |  |  |
| --- | --- | --- | --- |
| **Antifungal drug** | **Given?** | **Total days of therapy in 30-day period** | **Date of last dose prior to first culture (mm/dd/yy)** |
| Amphotericin B  (Polyene Antifungal) [ ]  Fungizone,  (Lipid-based Polyene Antifungal) [ ]  Amphotec [ ]  Abelcet  [ ]  AmBisome [ ]  Amphocil,  [ ]  ABLC [ ]  ABCD | [ ]  Yes[ ]  No[ ]  Unknown |  | [ ] [ ] /[ ] [ ] /[ ] [ ]   [ ] Unk |
| Anidulafungin (Eraxis) (an Echinocandin) | [ ]  Yes[ ]  No[ ]  Unknown |  | [ ] [ ] /[ ] [ ] /[ ] [ ]   [ ] Unk |
| Caspofungin (Cancidas) (an Echinocandin) | [ ]  Yes[ ]  No[ ]  Unknown |  | [ ] [ ] /[ ] [ ] /[ ] [ ]   [ ] Unk |
| Fluconazole (Diflucan) (an Azole) | [ ]  Yes[ ]  No[ ]  Unknown |  | [ ] [ ] /[ ] [ ] /[ ] [ ]   [ ] Unk |
| Flucytosine (5FC) (a Nucleoside Analog Antifungal) | [ ]  Yes[ ]  No[ ]  Unknown |  | [ ] [ ] /[ ] [ ] /[ ] [ ]   [ ] Unk |
| Micafungin (Mycamine) (an Echinocandin) | [ ]  Yes[ ]  No[ ]  Unknown |  | [ ] [ ] /[ ] [ ] /[ ] [ ]   [ ] Unk |
| Posaconazole (Noxafil) (an Azole) | [ ]  Yes[ ]  No[ ]  Unknown |  | [ ] [ ] /[ ] [ ] /[ ] [ ]   [ ] Unk |
| Itraconazole (Sporanox) (an Azole) | [ ]  Yes[ ]  No[ ]  Unknown |  | [ ] [ ] /[ ] [ ] /[ ] [ ]   [ ] Unk |
| Voriconazole (Vfend) (a Triazole) | [ ]  Yes[ ]  No[ ]  Unknown |  | [ ] [ ] /[ ] [ ] /[ ] [ ]   [ ] Unk |

1. Renal indices monitored during therapy? [ ]  Yes [ ]  No [ ]  Unknown
2. Nephrotoxicity levels during treatment\_\_\_\_\_\_
3. Iron chelator therapy? [ ]  Yes [ ]  No [ ]  Unknown
4. Deferasirox? [ ]  Yes [ ]  No [ ]  Unknown
5. Deferiprone? [ ]  Yes [ ]  No [ ]  Unknown

**Section VII: Outcomes**

1. Was infected sinus tissue or sinus tissue destruction visibly observed? [ ]  Yes [ ]  No [ ]  Unknown
2. Significant devitalized mucous membranes? [ ]  Yes [ ]  No [ ]  Unknown
3. Significant devitalized mucous membranes? [ ]  Yes [ ]  No [ ]  Unknown
4. Necrotic lesions in the:
	1. Nasal mucosa? [ ] Yes [ ] No [ ]  Unknown
	2. Turbinates? [ ]  Yes [ ]  No [ ]  Unknown
	3. Hard palate? [ ]  Yes [ ]  No [ ]  Unknown
5. Extension of the disease into the:

Maxillary sinus? [ ]  Yes [ ]  No [ ]  Unknown

1. Invasion of the surrounding vasculature? [ ]  Yes [ ]  No [ ]  Unknown
2. Spread into the cribriform plate or the orbital apex? [ ]  Yes [ ]  No [ ]  Unknown
3. Did the patient require enucleation? [ ]  Yes [ ]  No [ ]  Unknown
4. Occlusion of the carotid artery, causing an internal carotid artery pseudoaneurysm?
 [ ]  Yes [ ]  No [ ]  Unknown
5. Infarction and necrosis of tissues in other structures? [ ]  Yes [ ]  No [ ]  Unknown
Other structures involved?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. Was patient diagnosed with rhinocerebral mucormycosis in the medical record?
[ ]  Yes [ ]  No [ ]  Unknown [ ]  Not applicable
7. Date of discharge (mm/dd/yy): [ ] [ ] /[ ] [ ] /[ ] [ ]
8. Status at discharge:

[ ]  Alive [ ]  Deceased [ ]  Unknown

1. If deceased, date of death: [ ] [ ] /[ ] [ ] /[ ] [ ]
2. If patient is deceased, is death certificate available?

[ ]  Yes [ ]  No [ ]  Unknown [ ]  Not applicable

1. If yes, is invasive fungal infection (IFI) listed as cause of death?

[ ]  Yes [ ]  No [ ]  Unknown [ ]  Not applicable

If yes, is IFI listed as primary or secondary cause of death? Primary Secondary

1. If patient is deceased, was an autopsy performed?

[ ]  Yes [ ]  No [ ]  Unknown [ ]  Not applicable

1. If yes, was evidence of invasive fungal infection (IFI) present?

[ ]  Yes [ ]  No [ ]  Unknown [ ]  Not applicable