C L I N I C A L  P A T H W A Y

Cancer Care

Malignant Pleural Effusion (MPE)

CHRISTIANA CARE HEALTH SYSTEM
# Malignant Pleural Effusion (MPE)

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INTRODUCTION

To integrate coordinated care in the management of cancer patients receiving malignant pleural effusion treatment in the definitive setting. All patient fulfilling entry criteria will be systematically identified and navigated through a standardized pathway.

Scope of this Pathway

Patients who are:

1. Diagnosed or suspected to have Malignant Pleural Effusion (MPE).
2. Undergoing management of Malignant Pleural Effusion (MPE).
3. Followed from identification of Malignant Pleural throughout the duration of the disease.

Pathway Contacts

The content of this pathway is developed and maintained by the Cancer Care Service Line of Christiana Care Health System. Questions or feedback about the content may be directed to:
Any physician can refer an inpatient or outpatient to the Multidisciplinary Centers at the Helen F. Graham Cancer Center & Research Institute for a treatment/diagnostic plan or for a second opinion. Patients may also self-refer by calling 302-623-4500.

Administrative Lead: Danny Hamm, MSN, RN, Clinical Practice Manager Thoracic Surgery & Interventional Pulmonology and GYN Oncology
phone: 302-623-4478
e-mail: dhammjr@christianacare.org

Physician Lead: Ismael Matus, MD
phone: 302-623-4230
e-mail: ismael.matus@christianacare.org
Background

Malignant Pleural Effusion (MPE) impacts the quality of life of this patient population with a limited life expectancy (4-7 months) while carrying a significant healthcare-burden and inpatient mortality rate. Clinical presentations, response to palliative procedures and clinical courses vary given this heterogenous population.

Numerous pleural palliation options and combination of these exists and continue to undergo studies to identify safe, superior and ideally patient-centered care.

Based on available best evidence, this clinical pathway serves to support a unified and standardized approach aiming to deliver individual patient-centered care for patients with MPE.

Goals are to promote cost-effectiveness and reduction in repeat procedures while focusing on optimizing Quality of Life (QOL) and decreasing time spent in healthcare facilities for this patient population with a limited life expectancy.
Pathway Population

This pathway will include MPE patients in and referred to Thoracic Surgery & Interventional Pulmonology and will be the target for intervention.

The Problem

There can be an increase in Emergency Department visits, hospital admission and readmissions for malignant pleural effusion which can be inefficient and not cost-effective. This can occur during initial treatment or subsequent treatments. This can often lead to a poor patient experience and outcomes.

Causal Factors Addressed

The lack of coordinated healthcare delivery, timeliness, evidence-based approach to care, supportive comprehensive care, and communication barriers can exacerbate the patients receiving treatment for malignant pleural effusion.

System Issues Addressed

The ability for MPE Pathway provider to be able to streamline MPE care delivery. This pathway address non-adherence to clinical guidelines, inconsistent navigation, poor access to primary care, inadequate Inpatient to Outpatient handoff and pathway compliance.

Key MPE Pathway Interventions

1. Pathway patients will be identified after their first procedure for MPE.
2. Nurse Navigators will use the new Malignant Pleural Effusion Patients Pathway Aerial Checklist to ensure coordination of care. The Navigator will opt in or out of consultation with ancillary services. These include, but are
not limited to: physician appointments, social work, supportive and palliative care, Home Health and DME, and pleural effusion drainage education.

3. Nurse Navigators will provide a uniform patient experience by using checklists, information technology, frequent prescribed communication with the patient and identifying patient needs to optimize their satisfaction.

4. Consistent Inpatient to Outpatient Hand Off Protocol for patients that are discharged from the hospital but are still undergoing treatment.

5. Prospective education of pathway patients regarding the management of respiratory symptoms that may occur during their malignant pleural effusion treatment.

6. Recommend consultation with Supportive and Palliative Care for pathway patients

7. Education of Staff (Inpatient and Outpatient) and Patients of the MPE pathway

8. Track patients using Aerial software to ensure that treatment dates, appointments, ED visits and admission are all captured and appropriate intervention effected.

9. Use new Aerial reporting tool to measure pathway metrics including compliance.

Challenges for this Pathway

1. Health Literacy disparities
2. Lack of social support
3. Inconsistent navigation
4. Comorbidities
5. Compliance
6. Lack of Primary Care  
7. Lack of supportive care embedded in the Cancer Center  
8. Insufficient IT resources  
9. Insufficient communication between the ED, inpatient service and outpatient services  
10. Lack of coordination between inpatient and outpatient supportive care

**Nurse Navigator Coordinated Care Management Using New Aerial Malignant Pleural Effusion (MPE) Tool.**

A new "Malignant Pleural Effusion" tool is now available in Aerial. The Aerial Care Management (ACM) software was adapted to support a standard and automated workflow for managing patients who met the criteria for the MPE pathway during their first procedure. The patients will receive Malignant Pleural Effusion (MPE) treatments.

The Nurse Navigator will determine if the MPE patients meets the clinical pathway criteria.
The referrals/appointments within the department (Social Work, Behavioral Health etc.) and forward tasks and/or follow current departmental processes are listed.

<table>
<thead>
<tr>
<th>Social work – MPE Pathway</th>
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<tr>
<td>Behavioral Health – MPE Pathway</td>
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<td>Supportive and Palliative Care (SPC) – MPE Pathway</td>
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</table>
The standardize workflow allows the Nurse Navigator to track all applicable referrals/appointments, take appropriate action to facilitate the referral/appointment and then close the task with outcome as COMPLETED.

All non-applicable referrals/appointment will be automatically close and identified as "inappropriate". This will improve efficiency and allow the Nurse Navigator to track appropriate tasks.

Once the date of first treatment is known, the Nurse Navigator can begin follow-up with the patient. This will ensure that the patient has completed a treatment or an appointment.
The Nurse Navigator will be able to track all tasks and progress of the pathway patient.

The Nurse Navigator will be able to enter the date of ongoing procedures.

The Nurse Navigator will then note whether or not the patient will continue on the MPE pathway.

Finally, the new Aerial tool will be able to track how long each patient has been on the pathway.
Malignant Pleural Effusion Clinical Pathway

**ALGORITHM 1**

Malignant Pleural Effusion Diagnosis

- **Start**

- **MPE Navigator**
  - Identify Patients that meet MPE pathway criteria

- **Newly diagnosed cancer?**
  - Yes
  - Primary Cancer Site Nurse Navigation requested?
    - Yes
    - **MPE Navigator**
      - Inform Cancer Program Navigator of Patient Request for a Cancer Navigator via “Aerial Communication Task”
    - No
    - **End**
  - No

- **MPE Navigator**
  - Tag Patient electronically (PowerChart and Aerial)

- **MPE Navigator**
  - Initiate and Facilitate all “MPE” tasks (see list)

- **Procedure needed?**
  - Yes
  - **MPE Navigator**
    - Coordinate Consults with TSIP
  - No

- **MPE Navigator**
  - Coordinate procedures

**Important Note:**

The MPE Nurse Navigator confirms the patient request for a Cancer Program Nurse Navigator. The Cancer Program Nurse Navigator is responsible for entering the new patient and cancer program into Aerial.
Algorithm 2

Emergency Room Care for MPE Patient

Start

Adult patient with a symptomatic or asymptomatic effusion with diagnosis or suspected malignancy

Triage Nurse Conduct patient Registration Interview

Triage Nurse Enter patient information

Imaging Perform Tests Chest X-ray Cat Scan

Is there an Effusion?

ED Physician Request Call Back IP

Drainage Needed?

Discharge patient

Discharge patient with follow-up with TSIP

Algorithm 3
Inpatient Care for MPE Patient

Start

Patient admitted with Pleural Effusion (PE)

Non-Cancerous Effusion?

Yes

Routine

Hospitalist

Order IP Consult

IP

Perform Thoracentesis with Lab/Cytology

End

Discharge patient with follow-up specialty group

No

Possible Cancer

Symptoms?

Urgent

4 pm to 8 am & Weekends

Hospitalist

Order Thoracic Consult

Thoracic

Evaluate & Treat

Eval/Treat or Refer to IP?

Day or Night/weekends?

Thoracic

Refer to IP

Evaluate/Treat or Refer to IP?

Day

Thoracic

Refer to IP as needed as outpatient

Discharge patient with follow-up specialty group
Outpatient Care for MPE Patient

**Outpatient - Oncology**

- **Start**
- Cancer Patients with New Pleural Effusion

**Important Note:**
For any "Stat" consult or intervention please feel free to contact:
- Ismael Matus, MD – 206-902-6369
- Haroon Raja, MD – 917-239-0226
- Jackie Pellenbarg, PA-C – 302-438-0770

**Outpatient - Primary Care**

- **Start**
- Cancer Patient with Pleural Effusion

**Important Note:**
For any "Stat" consult or intervention please feel free to contact:
- Ismael Matus, MD – 206-902-6369
- Haroon Raja, MD – 917-239-0226
- Jackie Pellenbarg, PA-C – 302-438-0770

**Outpatient - Thoracic Surgery**

- **Start**
- Cancer Patient with Pleural Effusion

**Important Note:**
Contact the MPE Nurse Navigator for specific MPE Patient Educational Materials and Patient IPC Video

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**Important Note:**
For any "Stat" consult or intervention please feel free to contact:
- Ismael Matus, MD – 206-902-6369
- Haroon Raja, MD – 917-239-0226
- Jackie Pellenbarg, PA-C – 302-438-0770

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**Thoracic**

- **Perform H&P**
- **Review CT Scan**

**Thoracic**

- **Drainage needed?**
  - Yes
  - **US**
  - **Schedule appointment with IP**
  - **Coordinator**
  - **Schedule follow-up visit**
  - **End**
  - **MPE Patient is managed by TSIP**

- **No**
  - **CT**
  - **Thoracic**
  - **Arrange Thoracic IR in 3–5 Days**
  - **Thoracic**
  - **Schedule appointment with IP**
  - **Coordinator**
  - **Schedule follow-up visit**
  - **End**
  - **MPE Patient is managed by TSIP**
  - **If MPE confirmed N/N will add patient to MPE Pathway**

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**Oncology**

- **Perform H&P**
- **Evaluate Patient**

**Oncology**

- **Patient on MPE Pathway?**
  - Yes
  - **Follow MPE Pathway**
  - **End**
  - **MPE Patient is managed by TSIP**
  - **Oncology**
  - **Evaluate Patient**
  - **End**
  - **Patient seen within 72 Hours**

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**Primary Care**

- **Perform H&P**
- **Evaluate Patient**

**Primary Care**

- **Urgent or Routine?**
  - **Urgent**
  - **Call Thoracic Surgery & IP Office**
  - **IP**
  - **Triage & Manage Patient, Post Procedure Schedule Pleural Clinic**
  - **End**
  - **MPE Patient is managed by TSIP**
  - **Primary Care**
  - **Refer to TSIP Office**
  - **End**
  - **Patient seen within 72 Hours**

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**IP**

- **Triage & Manage Patient, Post Procedure Schedule Pleural Clinic**
- **End**

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**Thoracic Surgery**

- **Start**
- **Perform H&P**
- **Review CT Scan**

**Thoracic**

- **Discharge patient with follow-up**
- **Thoracic**
- **Arrange Thoracic IR in 3–5 Days**
- **Thoracic**
- **Schedule appointment with IP**
- **Coordinator**
- **Schedule follow-up visit**
- **End**
- **MPE Patient is managed by TSIP**
- **If MPE confirmed N/N will add patient to MPE Pathway**
HEALTH EQUITY CONSIDERATIONS

MPE Pathway patients will have access to a screening tool to assess health literacy. The goal is to ensure that patients are fully aware of their diagnosis and treatment options, and treatment plan.

The Health Equity team will track and monitor MPE pathway patient demographics. The results will be analyzed for patient access. The team will make recommendations to improve access as deemed appropriate.

The Health Equity team will ensure that interpreters are available to support MPE pathway patients.

Contact Information:

Jacqueline Ortiz
Director, Cultural Competence and Language Services
(302) 733-3113

Claudia Angelica Reyes-Hull
Manager, Language Services
(302) 733-1417
There is a new patient education tool that was created specifically for MPE pathway patient. The guide is comprehensive and may be used by the patient to capture appointment information.

1. Inpatient Education - Cerner

2. Outpatient Education - Patient Portal

<table>
<thead>
<tr>
<th>Health Library Title</th>
<th>Cerner Title</th>
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<tr>
<td>Learning About a Pleural Effusion</td>
<td>Pleural Effusion and Pleural Empyema: General Info</td>
</tr>
<tr>
<td>Indwelling Catheter Drainage for Chest or Abdomen: Care Instruction</td>
<td>Indwelling Peritoneal or Pleural Catheter: Drainage</td>
</tr>
<tr>
<td>Sedation for a Medical Procedure: Care Instructions</td>
<td>Sedation</td>
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<tr>
<td>Pleurodesis: What to Expect at Home</td>
<td>Pleurodesis: Post-op</td>
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<tr>
<td>Pleurodesis: Before Your Procedure</td>
<td>Pleurodesis: Pre-op</td>
</tr>
<tr>
<td>Thoracentesis</td>
<td><em>In Progress</em></td>
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<tr>
<td>Thoracentesis: Before Your Procedure</td>
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</tbody>
</table>

**Rocket IPC Patient Drainage Instructional Video**: Third video down: Using the Rocket® IPC™ bottle & bag adapter – Audience is patients
CLINICAL EDUCATION MATERIALS

National Cancer Institute

Clinical Trials information

National Comprehensive Cancer Network
REFERENCES


ACKNOWLEDGEMENTS

CLINICAL LEADER: Ismael Matus, MD
PROJECT MANAGER: E. J. Johnson, PhD, MBA, MS, LSSMBB

TEAM MEMBERS/SUBJECT MATTER EXPERTS
Danny Hamm, MSN, RN
Nattallie Masso, MSN, RN
Cynthia King, RN, OCN
Karen Angelo, LPN
Raja Haroon, MD
Charles Mulligan, MD
Jamil Khatri, MD
Christian Coletti, MD
Heather Ragozine-Bush, MD
Jaqueline Pellenbarg, PA
Keri Monteleone, PhD
Carmen Pal, RN, MSN, MBA, PCCN
Amanda Smith, SA
Amanda Baez, BSN, RN-BC
THE CHRISTIANA CARE WAY

We serve our neighbors as respectful, expert, caring partners in their health. We do this by creating innovative, effective, affordable systems of care that our neighbors value.