

# CLINICAL PATHWAY

## Cancer Care



---

## Malignant Pleural Effusion (MPE)

---



**CHRISTIANA CARE**  
HEALTH SYSTEM

# Malignant Pleural Effusion (MPE)

## Table of Contents (tap to jump to page)

<b>INTRODUCTION</b>	<b>1</b>
<b>Scope of this Pathway</b>	<b>1</b>
<b>Pathway Contacts</b>	<b>1</b>
<b>CLINICAL PATHWAY</b>	<b>3</b>
<b>PATHWAY ALGORITHMS</b>	<b>9</b>
<b>HEALTH EQUITY CONSIDERATIONS</b>	<b>14</b>
<b>PATIENT EDUCATION MATERIALS</b>	<b>16</b>
<b>CLINICAL EDUCATION MATERIALS</b>	<b>17</b>
<b>REFERENCES</b>	<b>18</b>
<b>ACKNOWLEDGEMENTS</b>	<b>20</b>

## 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:



**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](mailto:dhammjr@christianacare.org)**

**Physician Lead: Ismael Matus, MD**

**phone: 302-623-4230**

**e-mail: [ismael.matus@christianacare.org](mailto:ismael.matus@christianacare.org)**

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.



# CLINICAL PATHWAY

## 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 screenshot shows the Aerial software interface. On the left, a sidebar contains navigation options: 'Request Details' (checked), 'Custom Fields', 'Providers', 'Diagnoses' (checked), and 'Services' (highlighted with a red box). The main content area shows a 'Coding scheme' of 'HCPCS - ICD-9'. Below this is a dropdown menu for selecting a service, with the option 'Clinical Pathway - Malignant Pleural Effusion (CSMPEPA)' highlighted in red. A 'SEARCH SERVICES' button is located below the dropdown. To the right of the search button, there is a red text prompt: 'Select Malignant Pleural Effusion Clinical Pathway Select Service'. At the bottom of the interface, there are two buttons: 'SAVE & EXIT' and 'VIEW AUDIT HISTORY'.





The referrals/appointments within the department (Social Work, Behavioral Health etc.) and forward tasks and/or follow current departmental processes are listed.

<b>Social work – MPE Pathway</b>
<b>Behavioral Health – MPE Pathway</b>
<b>Home Health /DME- MPE Pathway</b>
<b>Physician Appointments- MPE Pathway</b>
<b>Testing Scan /Scheduled Appointments - MPE Pathway</b>
<b>Review Plan of Care with Patient – MPE Pathway</b>
<b>One-week Follow-Up Drainage – MPE Pathway</b>
<b>Patient Education on Drainage – MPE Pathway</b>
<b>Supportive and Palliative Care (SPC) – MPE Pathway</b>



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.


Request Detail

<b>Treatment Setting:</b>	Outpatient Hospital	<b>Follow up:</b>	<input type="text"/>
<b>Start Date:</b>	06/12/2020	<b>Discharge/End Date:</b>	
<b>Due Date/Time:</b>		<b>Disposition:</b>	
<b>Servicing Provider:</b>			
<b>Source System:</b>	AERIAL	<b>Claim Number:</b>	

**Services (1)**

**Primary Diagnosis:** I63.9-Cerebral infarction, unspecified

<b>Cancer Type</b>	Thoracic
<b>Date of first treatment</b>	<input type="text"/> (MM/DD/YYYY)
<b>Date of last treatment</b>	<input type="text"/> (MM/DD/YYYY)


[Back to Table of Contents](#)

Important! Enter first date of treatment in as the follow-up field on the request pane.

<b>Follow up:</b>	<input type="text"/>
-------------------	----------------------

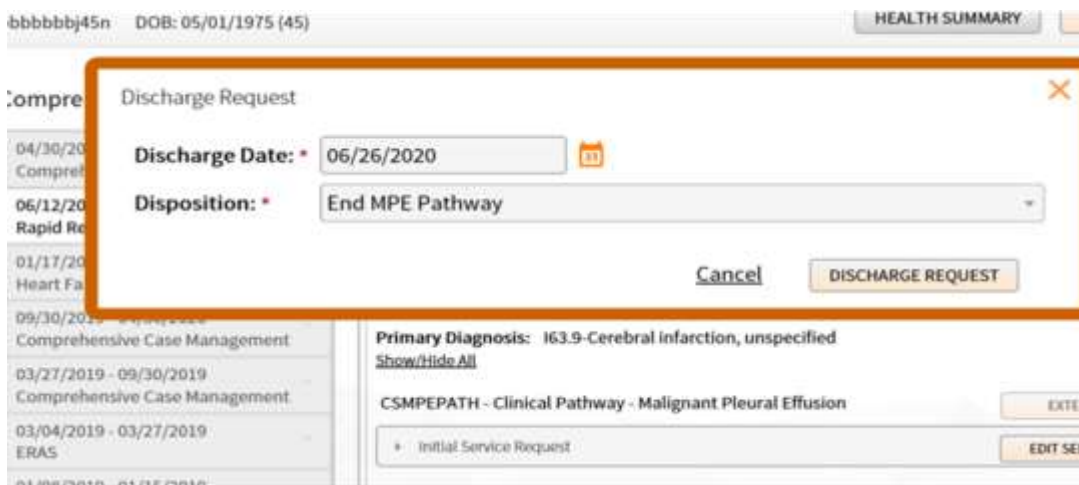
<b>Cancer Type</b>	Thoracic
<b>Date of first treatment</b>	<input type="text"/> (MM/DD/YYYY)
<b>Date of last treatment</b>	<input type="text"/> (MM/DD/YYYY)

The Nurse Navigator will be able to track all tasks and progress of the pathway patient.

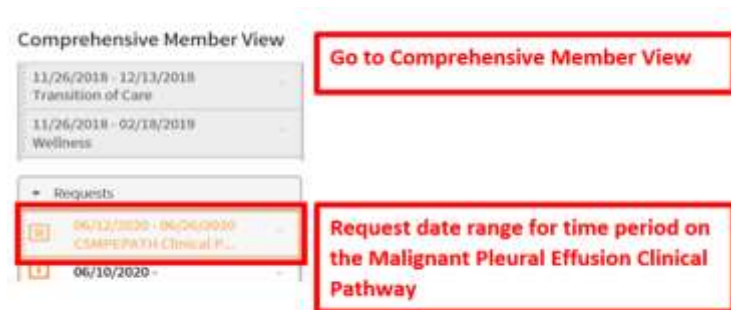
The Nurse Navigator will be able to enter the date of ongoing procedures.



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



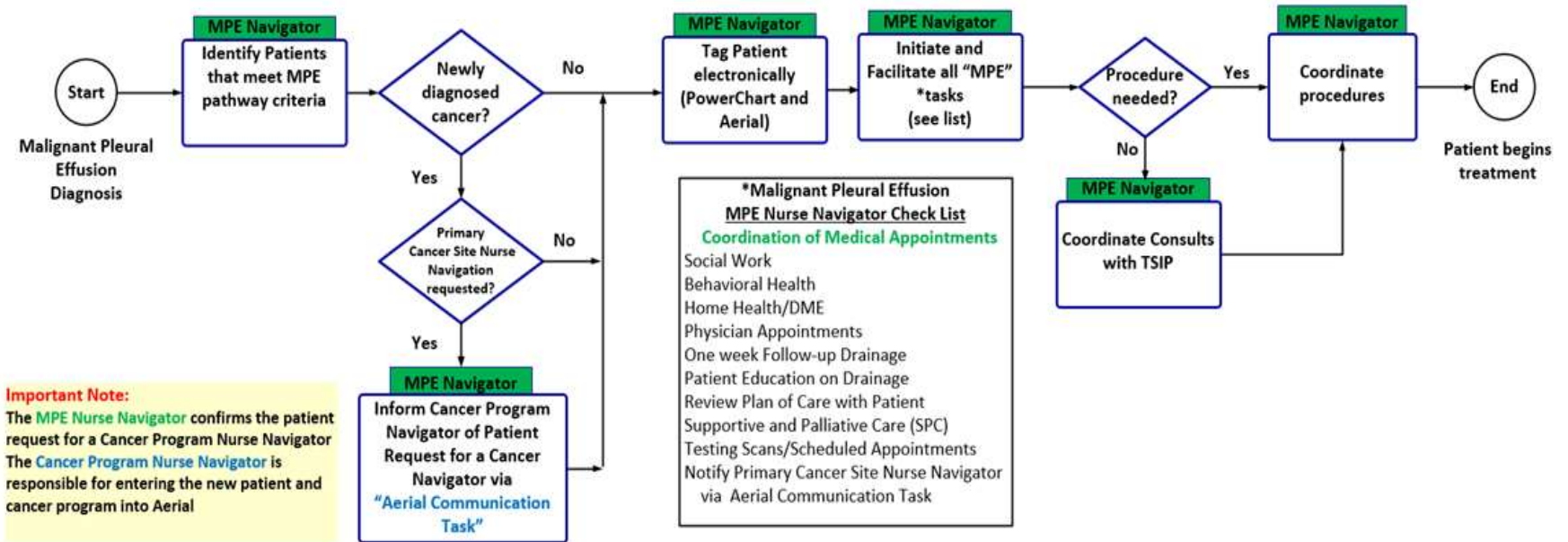
Finally, the new Aerial tool will be able to track how long each patient has been on the pathway.



# PATHWAY ALGORITHMS

## ALGORITHM 1

### Malignant Pleural Effusion Clinical Pathway

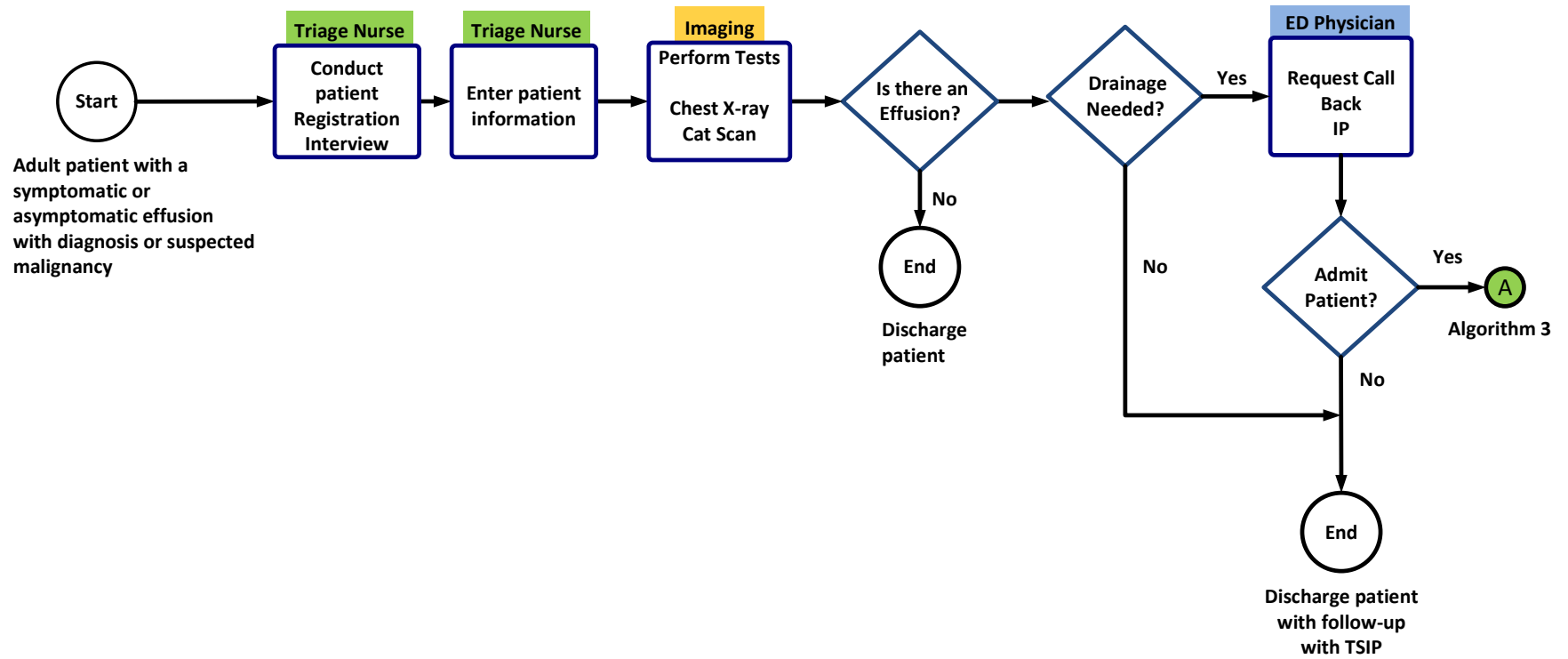


**Important Note:**  
 The MPE Nurse Navigator confirms the patient request for a Cancer Program Nurse Navigator  
 The Cancer Program Nurse Navigator is responsible for entering the new patient and cancer program into Aerial

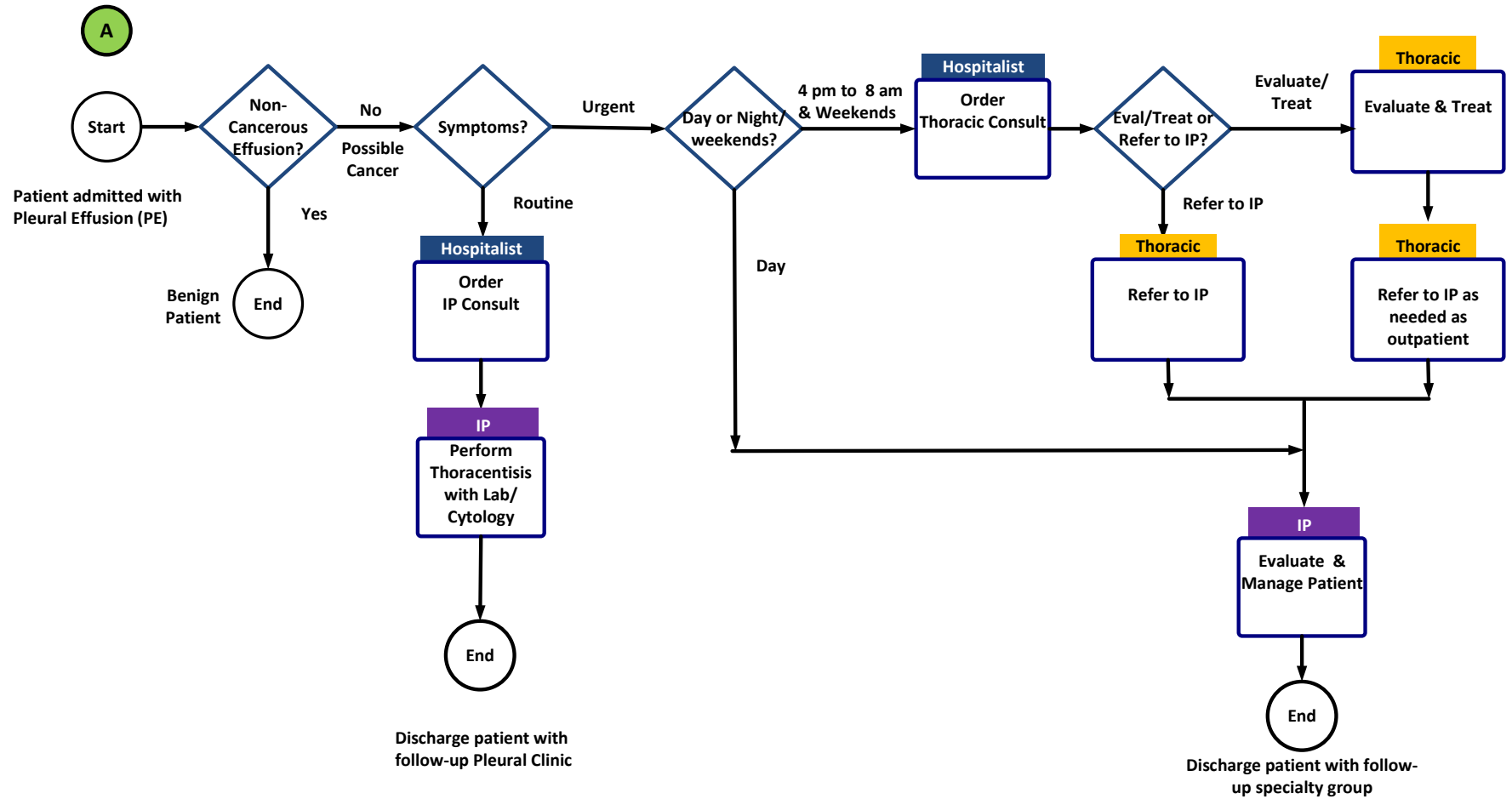


ALGORITHM 2

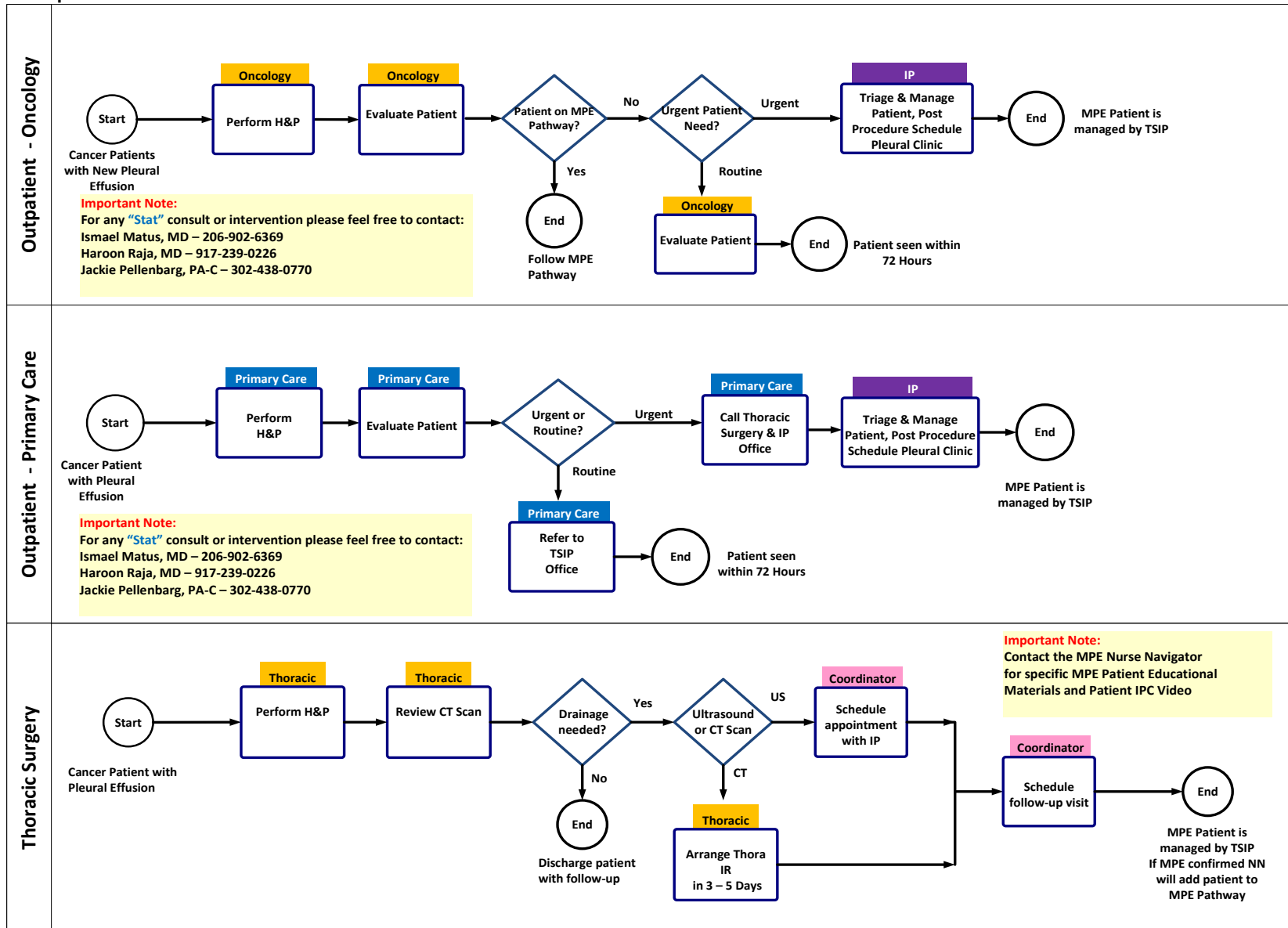
Emergency Room Care for MPE Patient



Inpatient Care for MPE Patient



Outpatient Care for MPE Patient



## 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





## PATIENT EDUCATION MATERIALS

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

Health Library Title	Cerner Title
<a href="#">Learning About a Pleural Effusion</a>	Pleural Effusion and Pleural Empyema: General Info
<a href="#">Indwelling Catheter Drainage for Chest or Abdomen: Care Instruction</a>	Indwelling Peritoneal or Pleural Catheter: Drainage
<a href="#">Sedation for a Medical Procedure: Care Instructions</a>	Sedation
<a href="#">Pleurodesis: What to Expect at Home</a>	Pleurodesis: Post-op
<a href="#">Pleurodesis: Before Your Procedure</a>	Pleurodesis: Pre-op
<a href="#">Thoracentesis</a>	*In Progress*
<a href="#">Thoracentesis: Before Your Procedure</a>	Thoracentesis: Pre-op
<a href="#">Thoracentesis: What to Expect at Home</a>	Thoracentesis: Post-op

[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

1. Desai, N.; Lee, H. (2017) Diagnosis and Management of Malignant Pleural Effusions. *Journal of Thoracic Disease* 9(10) S1111-1122
2. Feller-Kopman D, Reddy C, Decamp M, et al. Management of Malignant Pleural Effusions. An official ATS/STS/STR Clinical Practice Guidelines. *American Journal of Respiratory and Critical Care Medicine* 198(7), 839-849
3. Bibby AC, et al. (2018) ERS/EACTS Statement on the Management of Malignant Pleural Effusions *European Respiratory Journal* .
4. Lee Y.G; Fysh E.T.H; Thomas R.; et al. (2016) Australian Malignant Pleural Effusion (Ample) Trial: A Multicentric Randomized Study
5. Comparing Indwelling Pleural Catheter versus Talc Pleurodesis. *American Journal of Respiratory Critical Care Medicine* 193.
6. Wahidi M.; Reddy C.; Yermus L.; et al.(2017, April) Randomized Trial of Pleural Fluid Drainage Frequency in Patients with Malignant Pleural Effusions. The ASAP Trial. *American Journal of Respiratory and Critical Care Medicine* 195(8).
7. Bhatragar R et al. Medical Thoracoscopy plus Talc Poudrage verses Chest Drain plus Talc Slurry for Malignant Pleural Effusion TAPPS Trial. *BMJ Journals* 4 (11)
8. Bhatragar R.; Keenan E.K.; Morley A.J.; et al. (2018, April) Outpatient Talc Administration by Indwelling Pleural Catheter for Malignant Effusion, IPC Plus Trial. *NEJM* 378 (14)
9. Bhatragar R.; Kennan E.K.; Morley A.J.; et al. (2018, Apr 5) Outpatient Talc Administration by Indwelling Pleural Catheter for Malignant Pleural Effusion. *New England Journal of Medicine* 278 (14), 1313-1322.



12. Puri V, Pyrdeck TL, Crabtree TD, et al. (2012, August) Treatment of malignant pleural effusion: a cost-effective analysis. *The Annals of Thoracic Surgery* 94(2):374-9.

13. Majid S, Frick K, Lee H, et al. (2015) Management of malignant pleural effusion: A cost-utility analysis. *Journal of Bronchology and Interventional Pulmonology* 22:215-



## 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.



*This work is licensed under the Creative Commons Attribution-Non Commercial-ShareAlike 4.0 International License. To view a copy of this license, visit <http://creativecommons.org/licenses/by-nc-sa/4.0/> or send a letter to Creative Commons, PO Box 1866, Mountain View, CA 94042, USA.*