

Disclaimer: This algorithm has been developed for MD Anderson using a multidisciplinary approach considering circumstances particular to MD Anderson's specific patient population, services and structure, and clinical information. This is not intended to replace the independent medical or professional judgment of physicians or other health care providers in the context of individual clinical circumstances to determine a patient's care. This algorithm should not be used to treat pregnant women.

ELIGIBILITY

CONCURRENT
COMPONENTS
OF VISIT

DISPOSITION

Esophageal
cancer
post-treatment
and NED

SURVEILLANCE

Status-post EMR/ESD
or esophagectomy
with or without
neoadjuvant therapy

or
Treated with tri-
modality therapy and
did not require
adjuvant nivolumab

MONITORING FOR
LATE EFFECTS

RISK REDUCTION/
EARLY DETECTION

PSYCHOSOCIAL
FUNCTIONING

See Page 2

Years 1 to 2:

- History and physical every 6 months
- Alternate PET/CT and CT chest and abdomen every 6 months
- EGD every 6 months for status-post EMR/ESD. EGD as clinically indicated for patients treated with esophagectomy with or without neoadjuvant therapy

Years 3 and up:

- History and physical annually
- CT chest and abdomen or PET/CT as clinically indicated
 - For squamous cell carcinoma (SCC) consider PET/CT or the addition of CT neck¹
- Consider comprehensive metabolic panel, CBC, vitamin B12, vitamin D 25OH, calcium, folic acid, iron, and zinc as clinically indicated²
- Consider collection of standardized patient reported outcomes annually
- EGD for esophageal adenocarcinoma (EAC):
 - 3-5 years post-treatment: As clinically indicated
 - 5-10 years post-treatment: Consider every 2 years until 80 years old as per patient's performance status
 - Past 10 years post-treatment: As clinically indicated
- EGD for SCC:
 - 3-10 years post-treatment: Consider annually or every 2 years as clinically indicated until 80 years old as per patient's performance status
 - Past 10 years post-treatment: Consider every 2 years as clinically indicated until 80 years old as per patient's performance status

NED = no evidence of disease
EMR = endoscopic mucosal resection
ESD = endoscopic submucosal dissection
EGD = esophagogastroduodenoscopy

Abnormal
findings³?

Yes

No

Return to primary
treating physician
• **Primary Oncologist**
to discuss Goal
Concordant Care
(GCC) with patient,
or if clinically
indicated, with
Patient
Representative⁴

Continue survivorship
monitoring

¹ Patients are at risk for secondary head and neck cancer. For abnormal scan, refer to or consult Head & Neck Surgery for examination and evaluation.

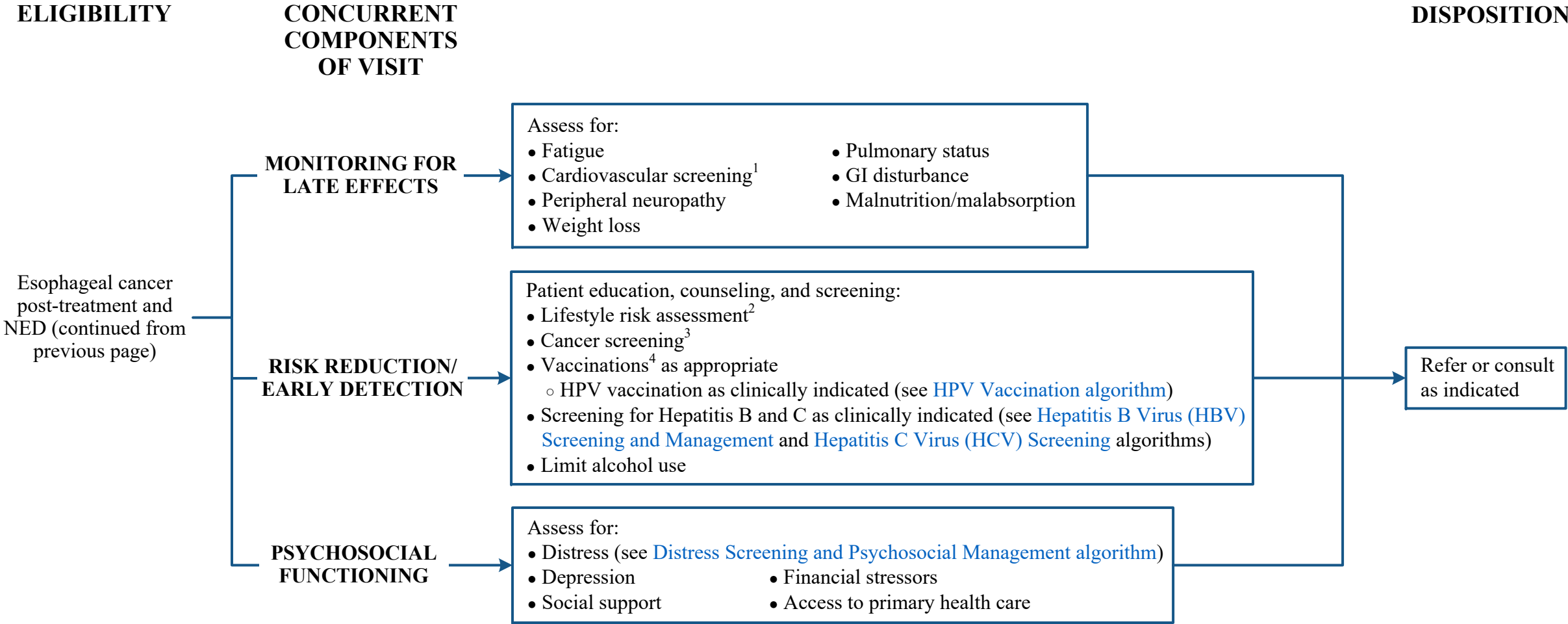
² Laboratory tests may be monitored by PCP

³ Abnormal findings may include but are not limited to:

• Recurrent or metastatic disease	• Diaphragmatic hernia	• Barrett's esophagus with or without dysplasia	• Moderate to severe anastomotic stricture
• Delayed gastric emptying	• Severe reflux and aspiration	• Moderate to severe stricture	• Significant weight-loss (BMI < 20)

⁴ GCC should be initiated by the **Primary Oncologist**. If Primary Oncologist is unavailable, Primary Team/Attending Physician to initiate GCC discussion and notify Primary Oncologist. Patients, or if clinically indicated, the Patient Representative should be informed of therapeutic and/or palliative options. GCC discussion should be consistent, timely, and re-evaluated as clinically indicated. The Advance Care Planning (ACP) note should be used to document GCC discussion. Refer to [GCC home page](#) (for internal use only).

Disclaimer: This algorithm has been developed for MD Anderson using a multidisciplinary approach considering circumstances particular to MD Anderson's specific patient population, services and structure, and clinical information. This is not intended to replace the independent medical or professional judgment of physicians or other health care providers in the context of individual clinical circumstances to determine a patient's care. This algorithm should not be used to treat pregnant women.



¹ See Survivorship – Adult Cardiovascular Screening algorithm

² See Physical Activity, Nutrition, Obesity Screening and Management, and Tobacco Cessation Treatment algorithms; ongoing reassessment of lifestyle risks should be a part of routine clinical practice

³ Includes breast, cervical, colorectal, liver, lung, pancreatic, prostate, and skin cancer screening

⁴ Based on American Society of Clinical Oncology (ASCO) guidelines

Disclaimer: This algorithm has been developed for MD Anderson using a multidisciplinary approach considering circumstances particular to MD Anderson's specific patient population, services and structure, and clinical information. This is not intended to replace the independent medical or professional judgment of physicians or other health care providers in the context of individual clinical circumstances to determine a patient's care. This algorithm should not be used to treat pregnant women.

SUGGESTED READINGS

- Abate, E., DeMeester, S. R., Zehetner, J., Oezcelik, A., Ayazi, S., Costales, J., . . . DeMeester, T. R. (2010). Recurrence after esophagectomy for adenocarcinoma: Defining optimal follow-up intervals and testing. *Journal of the American College of Surgeons*, 210(4), 428-435. <https://doi.org/10.1016/j.jamcollsurg.2010.01.006>
- Blonk, L., Gooszen, J. A. H., Fakkert, R. A., Eshuis, W. J., Rietveld, S. C. M., Wierdsma, N. J., . . . Gisbertz, S. S. (2024). Micronutrient deficiencies and anemia in the follow-up after gastroesophageal cancer surgery. *Diseases of the Esophagus*, 37(11), 1-9. <https://doi.org/10.1093/dote/doae053>
- Derogar, M., & Lagergren, P. (2012). Health-related quality of life among 5-year survivors of esophageal cancer surgery: A prospective population-based study. *Journal of Clinical Oncology*, 30(4), 413-418. <https://doi.org/10.1200/JCO.2011.38.9791>
- Djävrv, T., Derogar, M., & Lagergren, P. (2014). Influence of co-morbidity on long-term quality of life after oesophagectomy for cancer. *British Journal of Surgery*, 101(5), 495-501. <https://doi.org/10.1002/bjs.9417>
- Ghaly, G., Kamel, M., Nasar, A., Paul, S., Lee, P. C., Port, J. L., . . . Altorki, N. K. (2016). Locally advanced esophageal cancer: What becomes of 5-year survivors? *The Journal of Thoracic and Cardiovascular Surgery*, 151(3), 726-732. <https://doi.org/10.1016/j.jtcvs.2015.10.096>
- Gockel, I., Gönner, U., Domeyer, M., Lang, H., & Junginger, T. (2010). Long-term survivors of esophageal cancer: Disease-specific quality of life, general health and complications. *Journal of Surgical Oncology*, 102(5), 516-522. <https://doi.org/10.1002/jso.21434>
- Graham, L., & Wikman, A. (2016). Toward improved survivorship: Supportive care needs of esophageal cancer patients, a literature review. *Diseases of the Esophagus*, 29(8), 1081-1089. <https://doi.org/10.1111/dote.12424>
- Jacobs, M., Macefield, R. C., Elbers, R. G., Sitnikova, K., Korfage, I. J., Smets, E. M. A., . . . Sprangers, M. A. G. (2014). Meta-analysis shows clinically relevant and long-lasting deterioration in health-related quality of life after esophageal cancer surgery. *Quality of Life Research*, 23(4), 1097-1115. <https://doi.org/10.1007/s11136-013-0545-z>
- Kamboj, M., Bohlke, K., Baptiste, D. M., Dunleavy, K., Fueger, A., Jones, L., . . . Kohn, E. C. (2024). Vaccination of adults with cancer: ASCO guideline. *Journal of Clinical Oncology*, 42(14), 1699-1721. <https://doi.org/10.1200/JCO.24.00032>
- Little, A. G., Lerut, A. E., Harpole, D. H., Hofstetter, W. L., Mitchell, J. D., Altorki, N. K., & Krasna, M. J. (2014). The Society of Thoracic Surgeons practice guidelines on the role of multimodality treatment for cancer of the esophagus and gastroesophageal junction. *The Annals of Thoracic Surgery*, 98(5), 1880-1885. <https://doi.org/10.1016/j.athoracsur.2014.07.069>
- Martin, L., & Lagergren, P. (2015). Risk factors for weight loss among patients surviving 5 years after esophageal cancer surgery. *Annals of Surgical Oncology*, 22(2), 610-616. <https://doi.org/10.1245/s10434-014-3973-2>
- MD Anderson Institutional Policy #CLN1202 - Advance Care Planning Policy
Advance Care Planning (ACP) Conversation Workflow (ATT1925)

Continued on next page

Disclaimer: This algorithm has been developed for MD Anderson using a multidisciplinary approach considering circumstances particular to MD Anderson's specific patient population, services and structure, and clinical information. This is not intended to replace the independent medical or professional judgment of physicians or other health care providers in the context of individual clinical circumstances to determine a patient's care. This algorithm should not be used to treat pregnant women.

SUGGESTED READINGS - continued

- Morimoto, H., Yano, T., Yoda, Y., Oono, Y., Ikematsu, H., Hayashi, R., . . . Kaneko, K. (2017). Clinical impact of surveillance for head and neck cancer in patients with esophageal squamous cell carcinoma. *World Journal of Gastroenterology*, 23(6), 1051-1058. <https://doi.org/10.3748/wjg.v23.i6.1051>
- Morota, M., Gomi, K., Kozuka, T., Chin, K., Matsuura, M., Oguchi, M., . . . Yamashita, T. (2009). Late toxicity after definitive concurrent chemoradiotherapy for thoracic esophageal carcinoma. *International Journal of Radiation Oncology, Biology, Physics*, 75(1), 122-128. <https://doi.org/10.1016/j.ijrobp.2008.10.075>
- Nandy, N., & Dasanu, C. A. (2013). Incidence of second primary malignancies in patients with esophageal cancer: A comprehensive review. *Current Medical Research and Opinion*, 29(9), 1055-1065. <https://doi.org/10.1185/03007995.2013.816276>
- National Comprehensive Cancer Network. (2024). *Esophageal and Esophagogastric Junction Cancers* (NCCN Guideline Version 4.2024). Retrieved from https://www.nccn.org/professionals/physician_gls/pdf/esophageal.pdf
- Shien, K., Yamashita, M., Okazaki, M., Suehisa, H., Sawada, S., & Miyoshi, S. (2011). Primary lung cancer surgery after curative chemoradiotherapy for esophageal cancer patients. *Interactive Cardiovascular and Thoracic Surgery*, 12(6), 1002-1006. <https://doi.org/10.1510/icvts.2010.263509>
- Tan, S. Y., Tsoukalas, T., Javier K., Fazon, T., Singh, S., & Vardy, J. (2024). Recommendations on the surveillance and supplementation of vitamins and minerals for upper gastrointestinal cancer survivors: A scoping review. *Journal of Cancer Survivorship*. Advance online publication. <https://doi.org/10.1007/s11764-024-01666-4>
- Teixeira Farinha, H., Bouriez, D., Grimaud, T., Rotariu, A.-M., Collet, D., Mantziari, S., & Gronnier, C. (2023). Gastro-intestinal disorders and micronutrient deficiencies following oncologic esophagectomy and gastrectomy. *Cancers*, 15(14), 3554. <https://doi.org/10.3390/cancers15143554>
- Varghese, T. K., Hofstetter, W. L., Rizk, N. P., Low, D. E., Darling, G. E., Watson, T. J., . . . Krasna, M. J. (2013). The Society of Thoracic Surgeons guidelines on the diagnosis and staging of patients with esophageal cancer. *The Annals of Thoracic Surgery*, 96(1), 346-356. <https://doi.org/10.1016/j.athoracsur.2013.02.069>
- Wikman, A., Smedfors, G., & Lagergren, P. (2013). Emotional distress - a neglected topic among surgically treated oesophageal cancer patients. *Acta Oncologica*, 52(8), 1783-1785. <https://doi.org/10.3109/0284186X.2013.771820>
- Yamasaki, M., Miyata, H., Yasuda, T., Shiraishi, O., Takahashi, T., Motoori, M., . . . Doki, Y. (2015). Impact of the route of reconstruction on post-operative morbidity and malnutrition after esophagectomy: A multicenter cohort study. *World Journal of Surgery*, 39(2), 433-440. <https://doi.org/10.1007/s00268-014-2819-1>

Disclaimer: *This algorithm has been developed for MD Anderson using a multidisciplinary approach considering circumstances particular to MD Anderson's specific patient population, services and structure, and clinical information. This is not intended to replace the independent medical or professional judgment of physicians or other health care providers in the context of individual clinical circumstances to determine a patient's care. This algorithm should not be used to treat pregnant women.*

DEVELOPMENT CREDITS

This survivorship algorithm is based on majority expert opinion of the Esophageal Survivorship workgroup at the University of Texas MD Anderson Cancer Center. It was developed using a multidisciplinary approach that included input from the following:

Core Development Team Leads

Ara Vaporciyan, MD (Thoracic & Cardiovascular Surgery)

Workgroup Members

- Mariela Blum Murphy, MD (GI Medical Oncology)
- Danielle Fournier, DNP, APRN, AGPCNP-BC (Thoracic & Cardiovascular Surgery)
- Wendy Garcia, BS♦
- Katherine Gilmore, MPH (Cancer Survivorship)
- Wayne Hofstetter, MD (Thoracic & Cardiovascular Surgery)
- Courtney Jorgensen, MS, APRN, FNP-C (Thoracic & Cardiovascular Surgery)
- Thoa Kazantsev, MSN, RN, OCN♦
- Susan Knippel, DNP, APRN, FNP-C (Thoracic & Cardiovascular Surgery)
- Steven Lin, MD, PhD (Radiation Oncology)
- Jeannette Mares, PA-C (GI Medical Oncology)
- Johnny L. Rollins, MSN, APRN, ANP-C (Cancer Survivorship)

♦Clinical Effectiveness Development Team