# Oncology Clinical Pathways
## Pancreatic Cancer

December 2023 – V3.2023

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# Pancreatic Cancer – Presumptive Conditions

VA automatically presumes that certain disabilities were caused by military service. This is because of the unique circumstances of a specific Veteran's military service. If a presumed condition is diagnosed in a Veteran within a certain group, they can be awarded disability compensation.

Atomic Veterans – Exposure to Ionizing Radiation

- Cancer of the pancreas

Gulf War and Post 9/11 Veterans

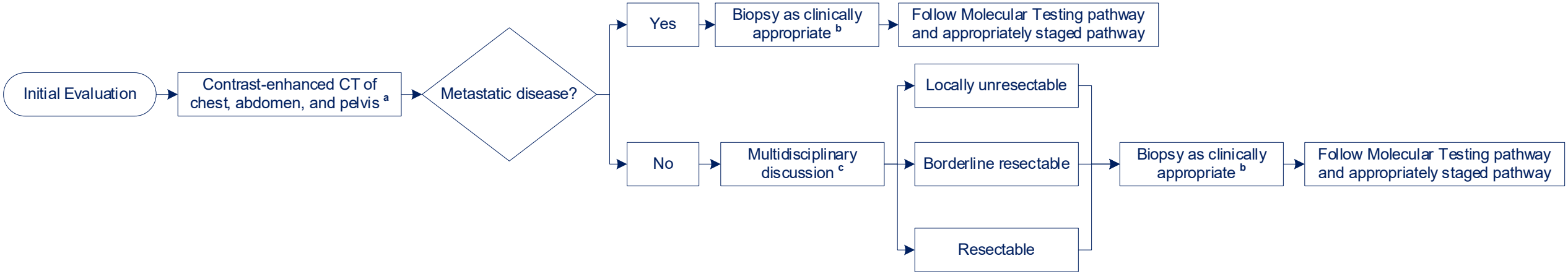
If the patient served on or after Sept. 11, 2001, in Afghanistan, Djibouti, Egypt, Jordan, Lebanon, Syria, Uzbekistan, or Yemen or if you served in the *Southwest Asia theater of operations, or Somalia, on or after Aug. 2, 1990, specific conditions include:

- Pancreatic cancer

* The Southwest Asia theater of operations refers to Iraq, Kuwait, Saudi Arabia, the neutral zone between Iraq and Saudi Arabia, Bahrain, Qatar, the United Arab Emirates, Oman, the Gulf of Aden, the Gulf of Oman, the Persian Gulf, the Arabian Sea, the Red Sea, and the airspace above these locations.

For more information, please visit U.S. Department of Veterans Affairs - Presumptive Disability Benefits (va.gov)

# Pancreatic Cancer – Initial Evaluation




Clinical trial(s) always considered on pathway.

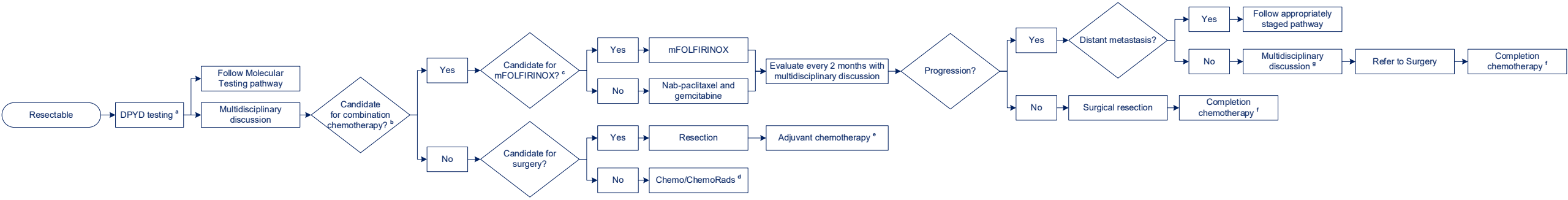
[a] **Imaging** multiphase preferred

[b] **Biopsy as Clinically Appropriate** at least two attempts to obtain core biopsy of the metastatic lesion (preferred if feasible) or EUS with fine needle aspiration of the primary (include cell block for molecular testing purposes); core biopsy preferable if possible is suggested to confirm diagnosis and obtain tissue for molecular testing before exploring surgical options

[c] **Multidisciplinary Discussion** includes a multidisciplinary tumor board or surgeon with required expertise

**EUS** Endoscopic Ultrasound

# Pancreatic Cancer – Resectable




Clinical trial(s) always considered on pathway.

[a] **Perform DPYD Testing If Not Already Performed** if DPYD PGx results return predicted phenotypes of either intermediate or poor metabolizer, please consult your local PGx pharmacist or submit an IFC Pharmacogenomics e-consult for assistance with therapeutic recommendation; a clinician may proceed without DPYD results if withholding chemotherapy for 2-3 weeks may gravely endanger patient's life; for example, if the disease burden is very high and it involves a large portion of vital organs such as liver, etc.

[b] **Combination Chemotherapy Candidate** defined as baseline ECOG PS 0-2, adequate and stable organ function and blood counts per the regimen, and absence of intercurrent medical problems that may jeopardize patient safety while on chemotherapy

[c] **mFOLFIRINOX Candidate** defined as patient with ECOG PS 0-1, absence of uncontrolled CAD, lack of prohibitive neuropathy, and patient commitment to lab draws, every 14-day clinic visits, and utilizing an ambulatory infusion pump

[d] **Chemotherapy Regimens or Radiation Strategy** administer a total of 6 months of systemic dose gemcitabine-based chemotherapy and concurrent infusional 5-fluorouracil/capecitabine (radio-sensitizing dose) and radiation to include conventional or moderately hypofractionated radiation (radio-sensitizing dose with conventional fractionaction radiation); alternatively hypofractionated radiation without chemotherapy can be given

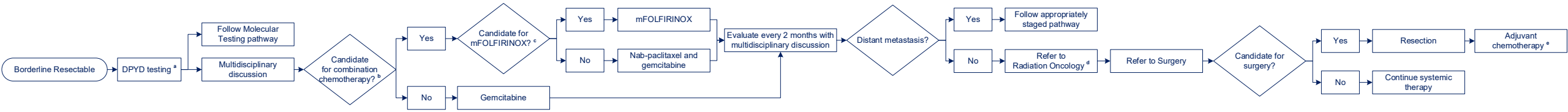
[e] **Adjuvant Chemotherapy** depending on the post-operative assessment, consider a total of 6 months of adjuvant treatment with gemcitabine monotherapy; a more aggressive approach with combination chemotherapy, e.g., gemcitabine and capecitabine or mFOLFIRINOX, can be considered if condition limiting the use of combination chemotherapy is no longer present;

[f] **Completion Chemotherapy** recommend a total of 6 months (neoadjuvant and adjuvant) chemotherapy with 12 cycles of mFOLFIRINOX (every 14 days) or 6 cycles of gemcitabine-based chemotherapy (every 28 day cycle)

[g] **Multidisciplinary Discussion** includes a multidisciplinary tumor board or surgeon with required expertise

**DPYD** Dihydropyrimidine Dehydrogenase

# Pancreatic Cancer – Borderline Resectable




Clinical trial(s) always considered on pathway.

[a] **Perform DPYD Testing If Not Already Performed** if DPYD PGx results return predicted phenotypes of either intermediate or poor metabolizer, please consult your local PGx pharmacist or submit an IFC Pharmacogenomics e-consult for assistance with therapeutic recommendation; a clinician may proceed without DPYD results if withholding chemotherapy for 2-3 weeks may gravely endanger patient's life; for example, if the disease burden is very high and it involves a large portion of vital organs such as liver, etc.

[b] **Combination Chemotherapy Candidate** defined as baseline ECOG PS 0-2, adequate and stable organ function and blood counts per the regimen, ability to maintain ongoing PO intake, absence of intercurrent medical problems that may jeopardize patient safety while on chemotherapy, and/or needing urgent intervention

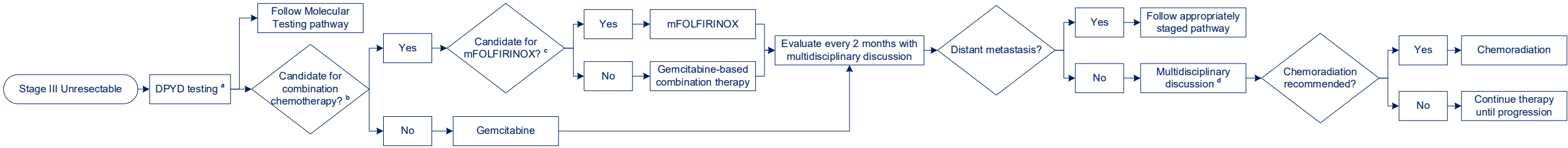
[c] **mFOLFIRINOX Candidate** defined as patient with ECOG PS 0-1, absence of uncontrolled CAD, lack of prohibitive neuropathy, and patient commitment to lab draws, every 14-day clinic visits, and utilizing an ambulatory infusion pump

[d] **Chemotherapy Regimens or Radiation Strategy** administer a total of 6 months of systemic dose gemcitabine-based chemotherapy and concurrent infusional 5-fluorouracil/capecitabine (radio-sensitizing dose) and radiation to include conventional or moderately hypofractionated radiation (radio-sensitizing dose with conventional fractionaction radiation); alternatively hypofractionated radiation without chemotherapy can be given

[e] **Adjuvant Chemotherapy** recommend a total of 6months (neo-adjuvant + adjuvant) chemotherapy with 12 cycles of mFOLFIRINOX (every 14 day cycle) or 6 cycles of gemcitabine-based chemotherapy (every 28 day cycle)

**DPYD** Dihydropyrimidine Dehydrogenase

# Pancreatic Cancer – Stage III Unresectable




Clinical trial(s) always considered on pathway.

[a] **Perform DPYD Testing If Not Already Performed** if DPYD PGx results return predicted phenotypes of either intermediate or poor metabolizer, please consult your local PGx pharmacist or submit an IFC Pharmacogenomics e-consult for assistance with therapeutic recommendation; a clinician may proceed without DPYD results if withholding chemotherapy for 2-3 weeks may gravely endanger patient's life; for example, if the disease burden is very high and it involves a large portion of vital organs such as liver, etc.

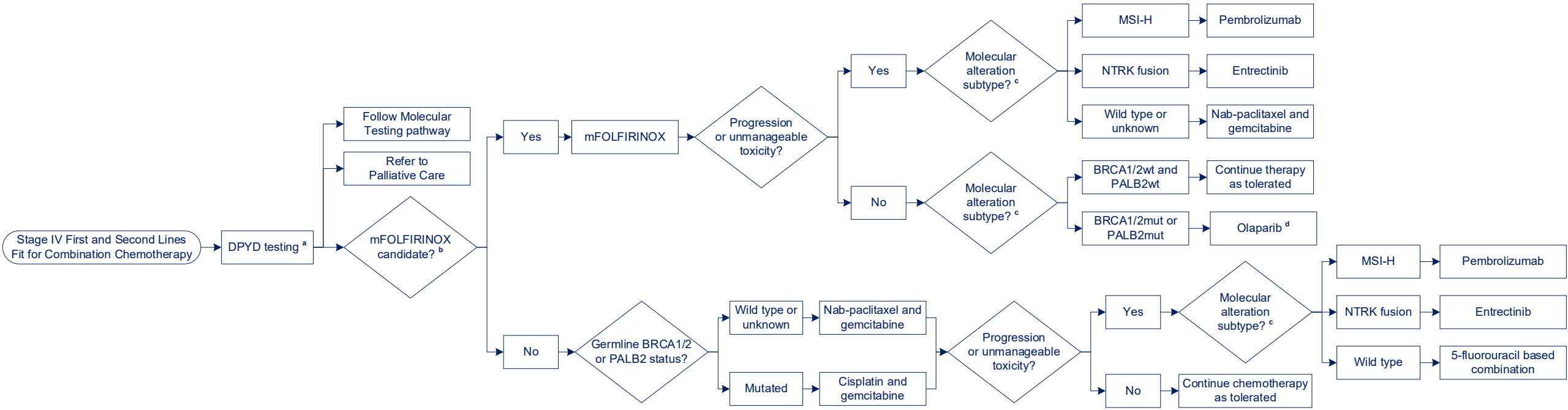
[b] **Combination Chemotherapy Candidate** defined as baseline ECOG PS 0-2, adequate and stable organ function and blood counts per the regimen, absence of intercurrent medical problems that may jeopardize patient safety while on chemotherapy, and/or needing urgent intervention

[c] **mFOLFIRINOX Candidate** defined as patient with ECOG PS 0-1, absence of uncontrolled CAD, lack of prohibitive neuropathy, and patient commitment to lab draws, every 14-day clinic visits, and utilizing an ambulatory infusion pump

[d] **Multidisciplinary Discussion** includes a multidisciplinary tumor board or radiation oncologist with required expertise or radiation and medical oncologist with required expertise

**DPYD** Dihydropyrimidine Dehydrogenase

# Pancreatic Cancer – Stage IV First and Second Lines Fit for Combination Chemotherapy




Clinical trial(s) always considered on pathway.

[a] **Perform DPYD Testing If Not Already Performed** if DPYD PGx results return predicted phenotypes of either intermediate or poor metabolizer, please consult your local PGx pharmacist or submit an IFC Pharmacogenomics e-consult for assistance with therapeutic recommendation; a clinician may proceed without DPYD results if withholding chemotherapy for 2-3 weeks may gravely endanger patient's life; for example, if the disease burden is very high and it involves a large portion of vital organs such as liver, etc.

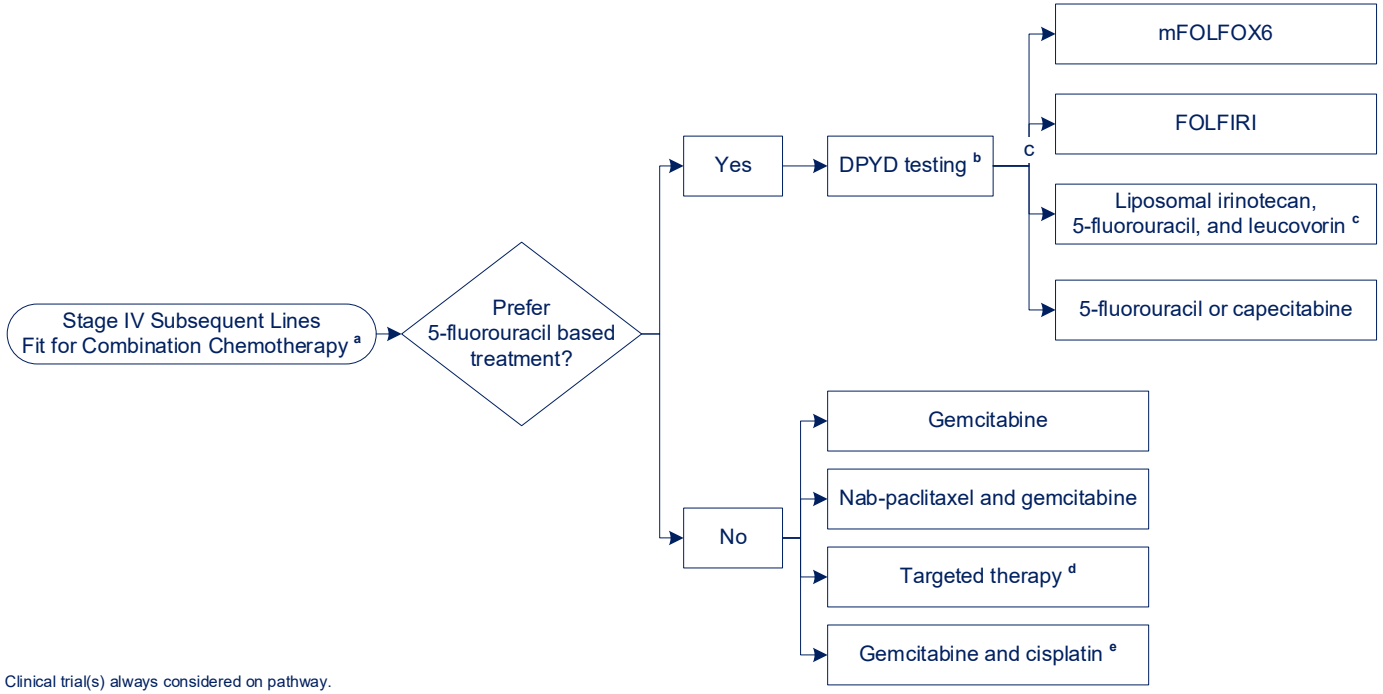
[b] **mFOLFIRINOX Candidate** defined as patient with ECOG PS 0-1, absence of uncontrolled CAD, lack of prohibitive neuropathy, and patient commitment to lab draws, every 14-day clinic visits, and utilizing an ambulatory infusion pump

[c] **Molecular Alteration Subtype** includes germline only

[d] **Maintenance Olaparib** is recommended for those with germline BRCA 1/2 or PALB2 mutation after 16 weeks of platinum-based combination chemotherapy is administered if tolerate

**DPYD** Dihydropyrimidine Dehydrogenase

# Pancreatic Cancer – Stage IV Subsequent Lines Fit for Combination Chemotherapy




Clinical trial(s) always considered on pathway.

[a] **Options** if not progressed and not significantly intolerant to the treatment in any prior line settings

[b] **Perform DPYD Testing If Not Already Performed** if DPYD PGx results return predicted phenotypes of either intermediate or poor metabolizer, please consult your local PGx pharmacist or submit an IFC Pharmacogenomics e-consult for assistance with therapeutic recommendation; a clinician may proceed without DPYD results if withholding chemotherapy for 2-3 weeks may gravely endanger patient's life; for example, if the disease burden is very high and it involves a large portion of vital organs such as liver, etc.

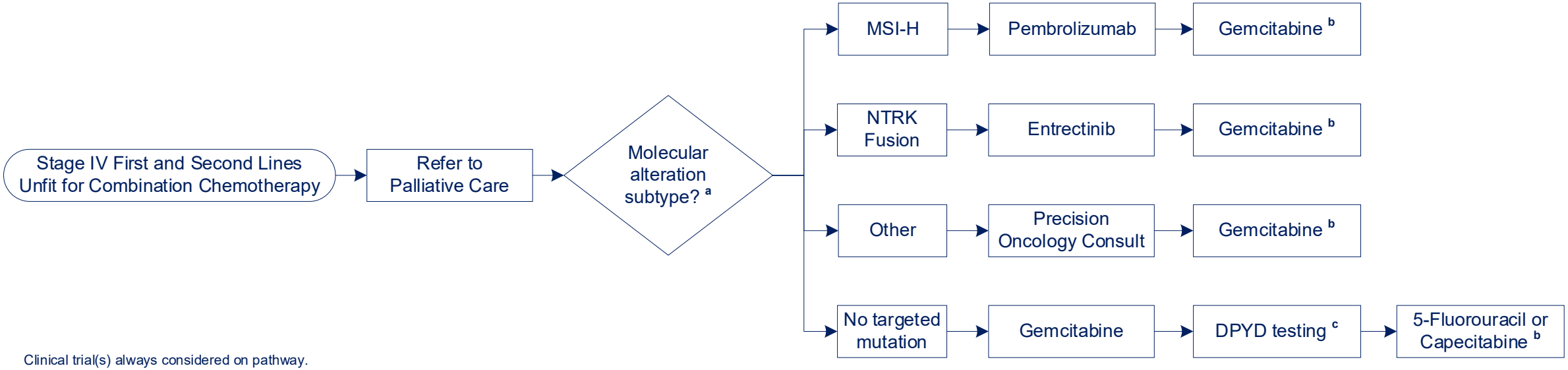
[c] **Liposomal Irinotecan, 5-fluorouracil, and Leucovorin** is an option after prior gemcitabine-based therapy and no prior irinotecan

[d] **Targeted Therapy** strongly consider IFC consult to Precision Oncology if entertaining targeted therapy in later line therapies (especially if BRAF V600E and KRAS G12C)

[e] **Gemcitabine and Cisplatin** for patient with germline BRCA 1/2 or PALB2 alteration who did not receive cisplatin in the first line setting

**DPYD** Dihydropyrimidine Dehydrogenase

# Pancreatic Cancer – Stage IV First and Second Lines Unfit for Combination Chemotherapy




Clinical trial(s) always considered on pathway.

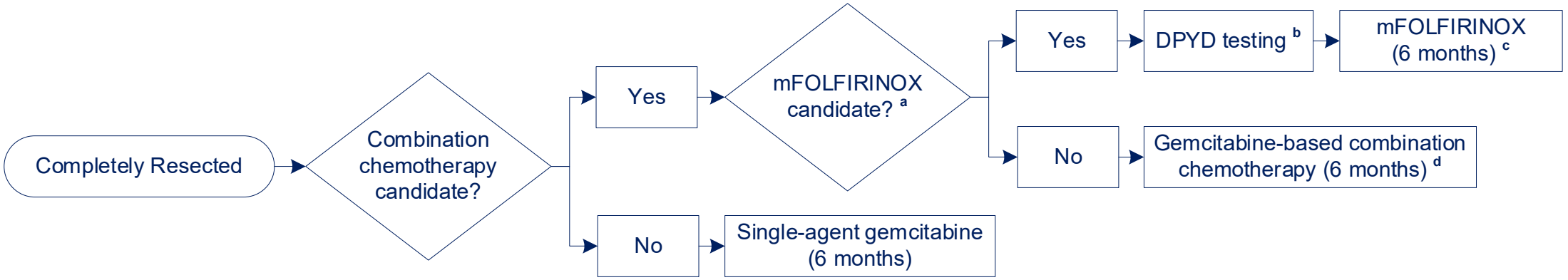
[a] **Molecular Alteration Subtype** includes either somatic or germline

[b] **Second Line** if intolerant to or progressed on first line treatment

[c] **Perform DPYD Testing If Not Already Performed** if DPYD PGx results return predicted phenotypes of either intermediate or poor metabolizer, please consult your local PGx pharmacist or submit an IFC Pharmacogenomics e-consult for assistance with therapeutic recommendation; a clinician may proceed without DPYD results if withholding chemotherapy for 2-3 weeks may gravely endanger patient's life; for example, if the disease burden is very high and it involves a large portion of vital organs such as liver, etc.

**DPYD** Dihydropyrimidine Dehydrogenase

# Pancreatic Cancer – Completely Resected




Clinical trial(s) always considered on pathway.

[a] **mFOLFIRINOX Candidate** defined as patient with ECOG PS 0-1, absence of uncontrolled CAD, and patient commitment; lack of prohibitive neuropathy and patient commitment to lab draws, every 14-day clinic visits, and utilizing an ambulatory infusion pump

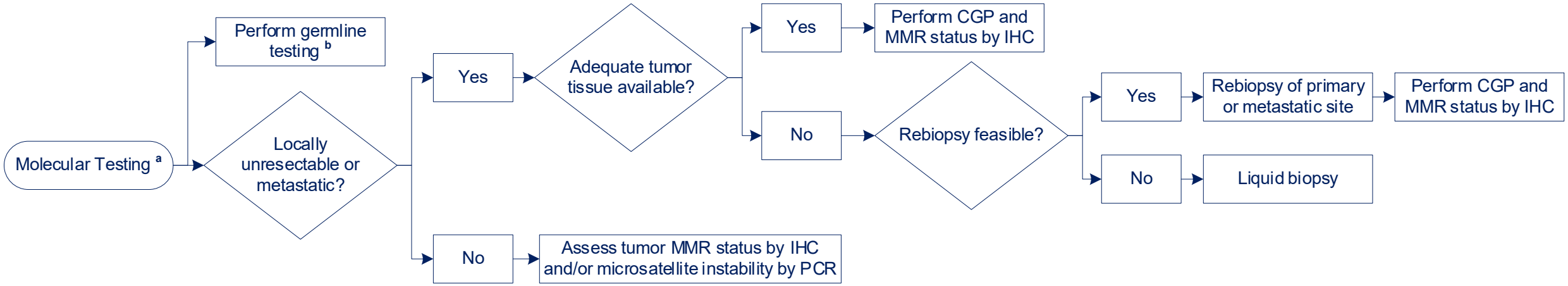
[b] **Perform DPYD Testing If Not Already Performed** if DPYD PGx results return predicted phenotypes of either intermediate or poor metabolizer, please consult your local PGx pharmacist or submit an IFC Pharmacogenomics e-consult for assistance with therapeutic recommendation; a clinician may proceed without DPYD results if withholding chemotherapy for 2-3 weeks may gravely endanger patient's life; for example, if the disease burden is very high and it involves a large portion of vital organs such as liver, etc.

[c] **Refer to Radiation Oncology** for select patients with high risk features, e.g., positive margin, perineural invasion, poor differentiation, positive LN+

[d] **Gemcitabine-Based Combination Chemotherapy** options include gemcitabine and capecitabine or nab-paclitaxel and gemcitabine

**DPYD** Dihydropyrimidine Dehydrogenase

# Pancreatic Cancer – Molecular Testing




Clinical trial(s) always considered on pathway.

[a] **Molecular Testing** perform for all pathologically confirmed pancreatic cancer

[b] **Germline Testing** for exocrine pancreatic cancer should include at minimum the following genes: APC, ATM, BRCA1, BRCA2, CDK4, CDKN2A, EPCAM, MLH1, MSH2, MSH6, PMS2, PALB2, STK11 and TP53; additionally, if the patient has a personal history of unexplained chronic pancreatitis or a family history of chronic pancreatitis consider including the following additional genes related to hereditary pancreatitis (SPINK1, PRSS1, CPA1, CTRC, and CFTR) or place a referral to genetics

**CGP** Comprehensive Genomic Profiling

# Pancreatic Cancer – Molecular Testing Table

| Eligibility | Test Category | Test Type | Recommended Vendors | NPOP Coverage | Specimen Type |
|---|---|---|---|---|---|
| Any Pathologically Confirmed Diagnosis of Pancreatic Cancer | Germline NGS* | Germline cancer panel or common hereditary panel (**POC) or referral to CCGS*** | Fulgent<br>Prevention Genetics | Yes<br>Yes | Blood, Saliva |
| | Somatic NGS | CGP (Solid);<br>CGP Liquid if tissue insufficient/NA | Tempus<br>Foundation Medicine | Yes<br>Yes | Tumor Tissue, Blood |
| | IHC | MLH1, MSH2, MSH6, PMS2 | Tempus (MMR) | Yes (when ordered with CGP) | Tumor Tissue |
| Family History of Chronic Pancreatitus *or* Personal History of Chronic Unexplained Pancreatitus | Germline NGS* | Refer to CCGS*** | Fulgent | Yes | Blood, Saliva |

* Germline NGS should include at a minimum APC, ATM, BRCA1, BRCA2, CDK4, CDKN2A, EPCAM, MLH1, MSH2, MSH6, PMS2, PALB2, STK11, and TP53
** POC: Point of Care (Provider orders Germline genetic test)
*** CCGS referal testing to include additional genes: SPINK1, PRSS1, CPA1, CTRC, and CFTR

# Questions?

Contact VHAOncologyPathways@va.gov