



# Personalized Therapy

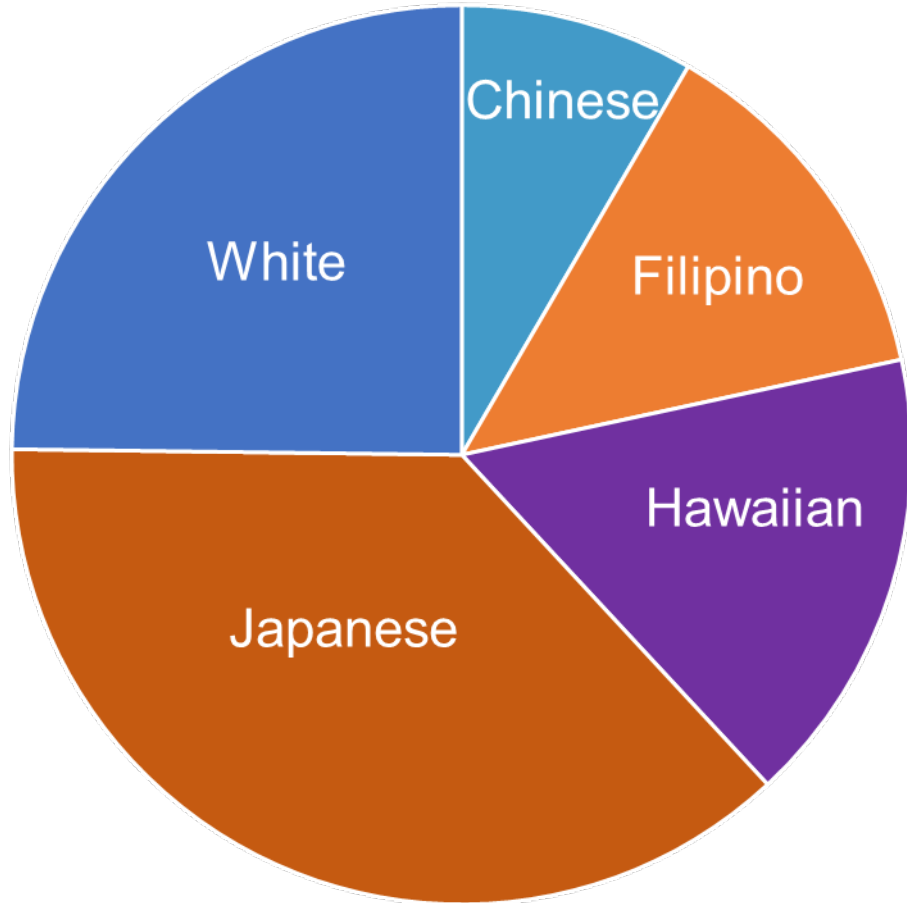
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- Early stage cancer – timing of chemotherapy
- Advanced cancer – choosing appropriate therapy

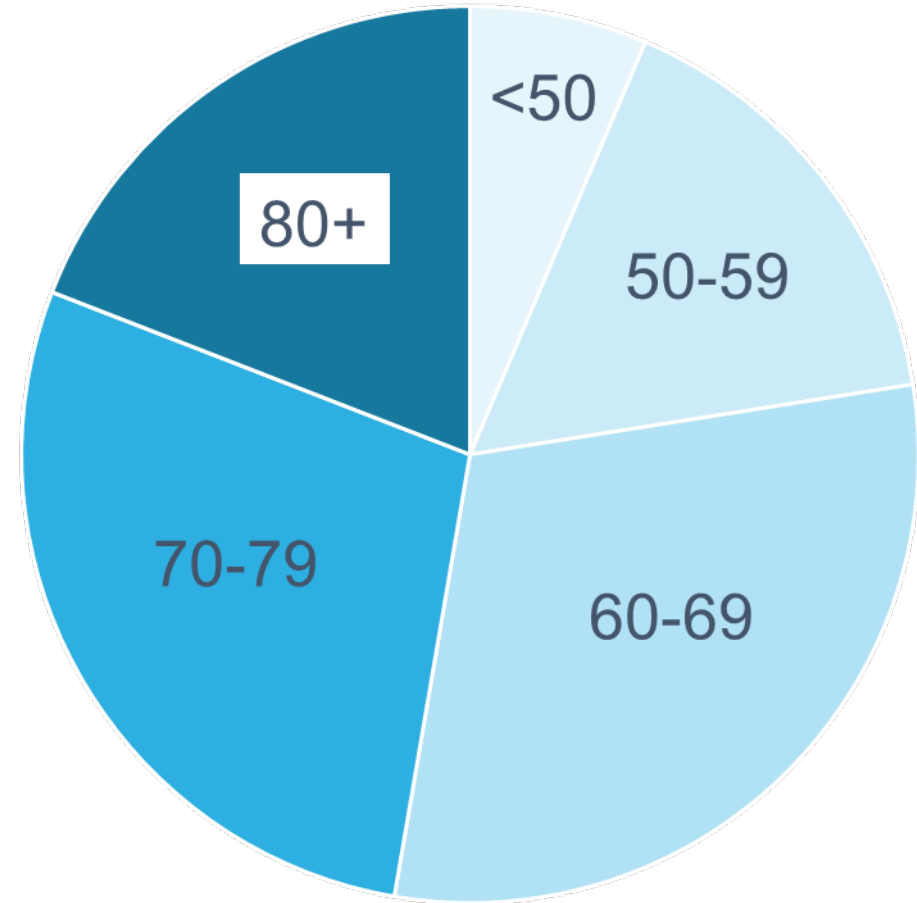


# Pancreatic Cancer in Hawaii

## RACE



## AGE

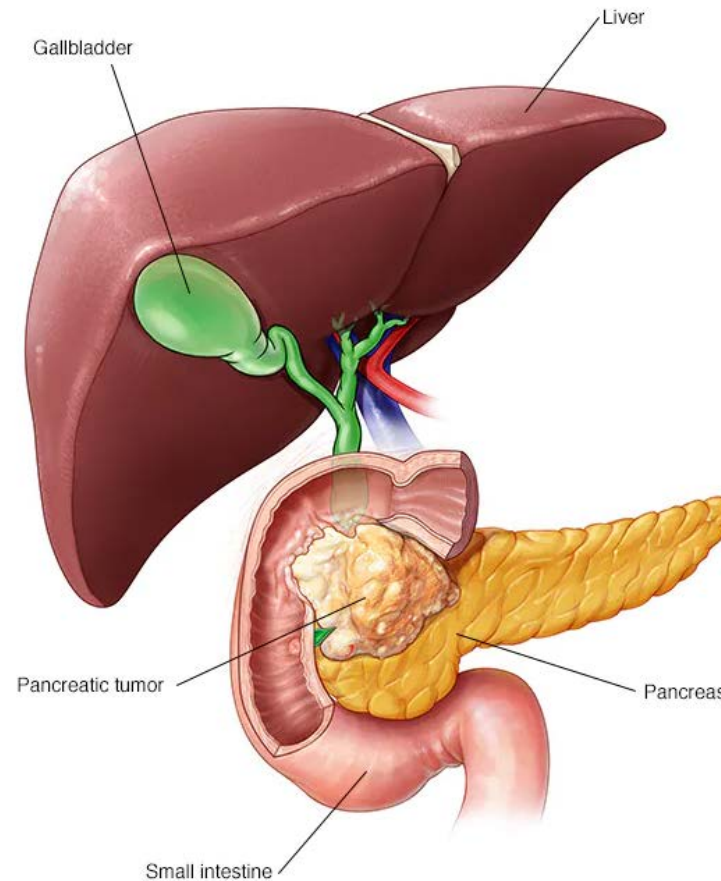


# Early Stage Cancer



# Early stage pancreatic cancer

- Cancer that can usually be removed with surgery
- Stage I or Stage II
- Curable





# Adjuvant chemotherapy

- Chemotherapy after surgery decreases the chance of cancer recurrence
- Recommended for all patients who have surgery

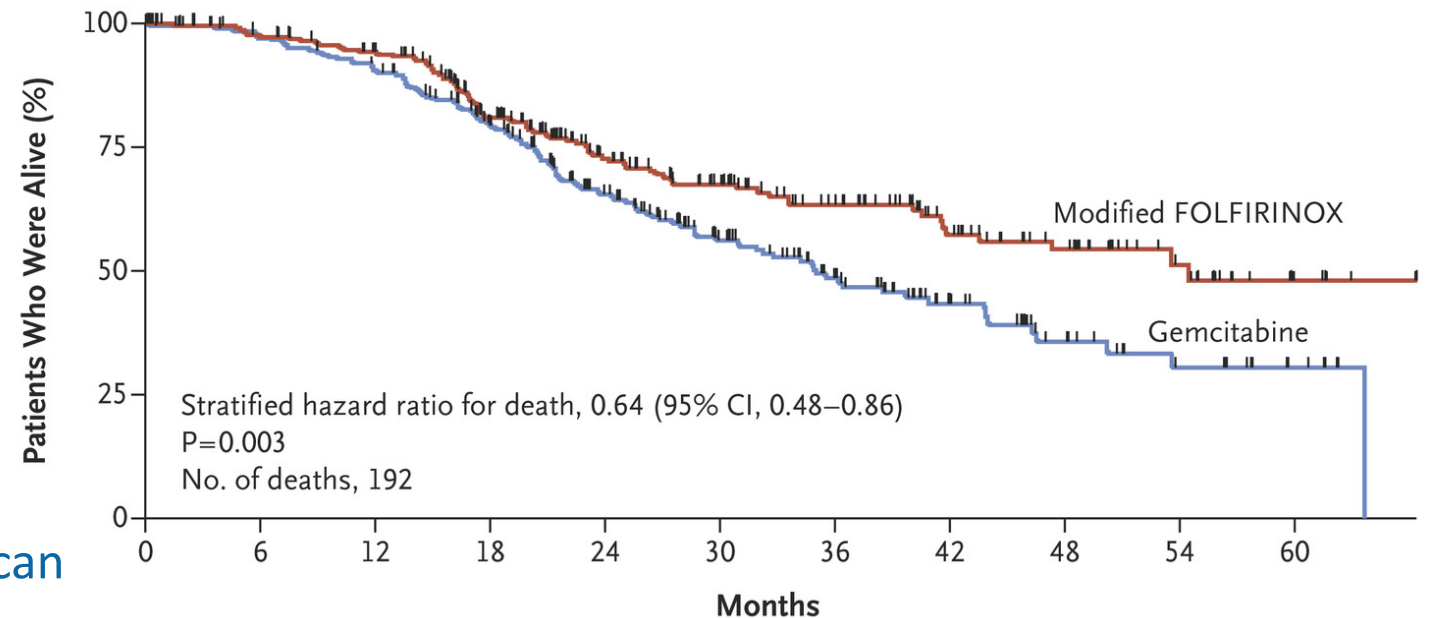
## Survival

Surgery alone ~ 22 months

Gemcitabine = 35 months

FOLFIRINOX = 54 months

\*FOLFIRINOX = 5FU, oxaliplatin, irinotecan





# Neoadjuvant chemotherapy

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- Chemotherapy administered before surgery

## Pros

- Shrink cancer
- High rates of clear margins on surgery
- Prevent spread of the cancer
- Good shape to tolerate chemo

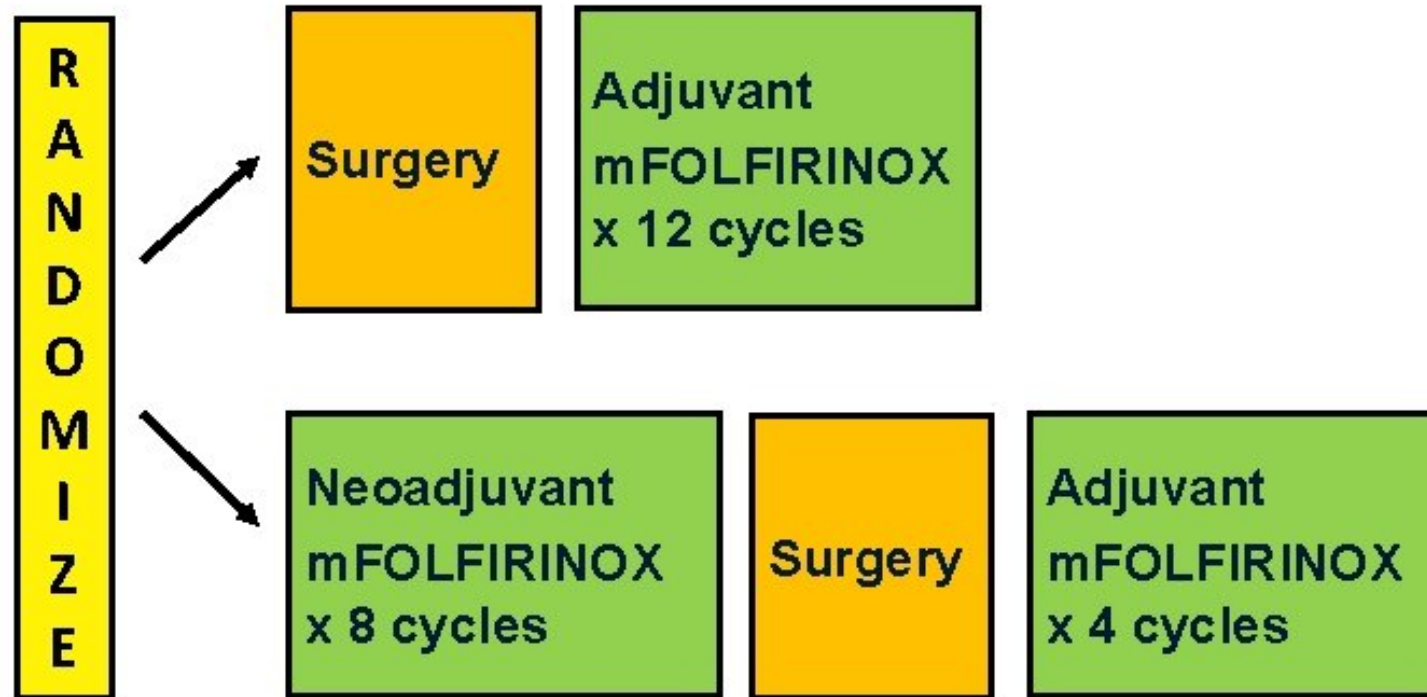
## Cons

- Cancer could grow during chemotherapy
- Side effects of chemo could delay surgery



# Chemotherapy or surgery first?

Clinical trial A021806



FOLFIRINOX = 5FU, oxaliplatin, irinotecan

# Advanced Cancer

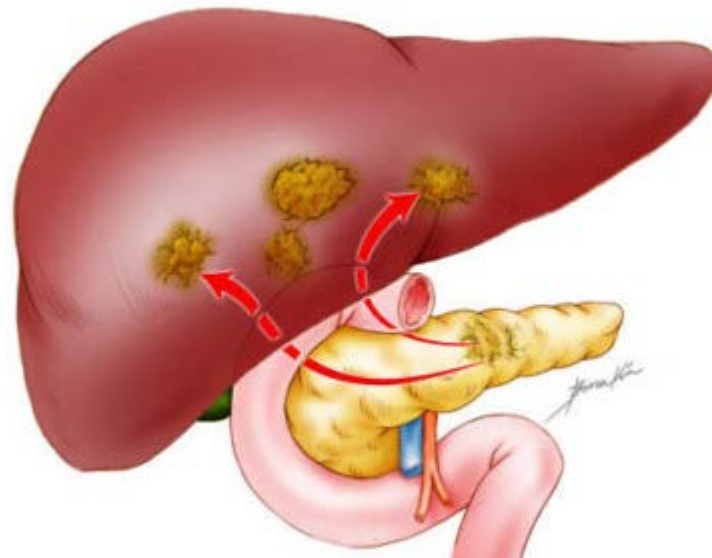
- Elderly patients
- Immunotherapy



# Advanced Pancreatic Cancer

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- Cancer that is treatable but not curable
- Stage III or Stage IV
- Chemotherapy is standard treatment
- **How do we choose the best treatment for an individual patient?**





# Elderly Cancer Patients

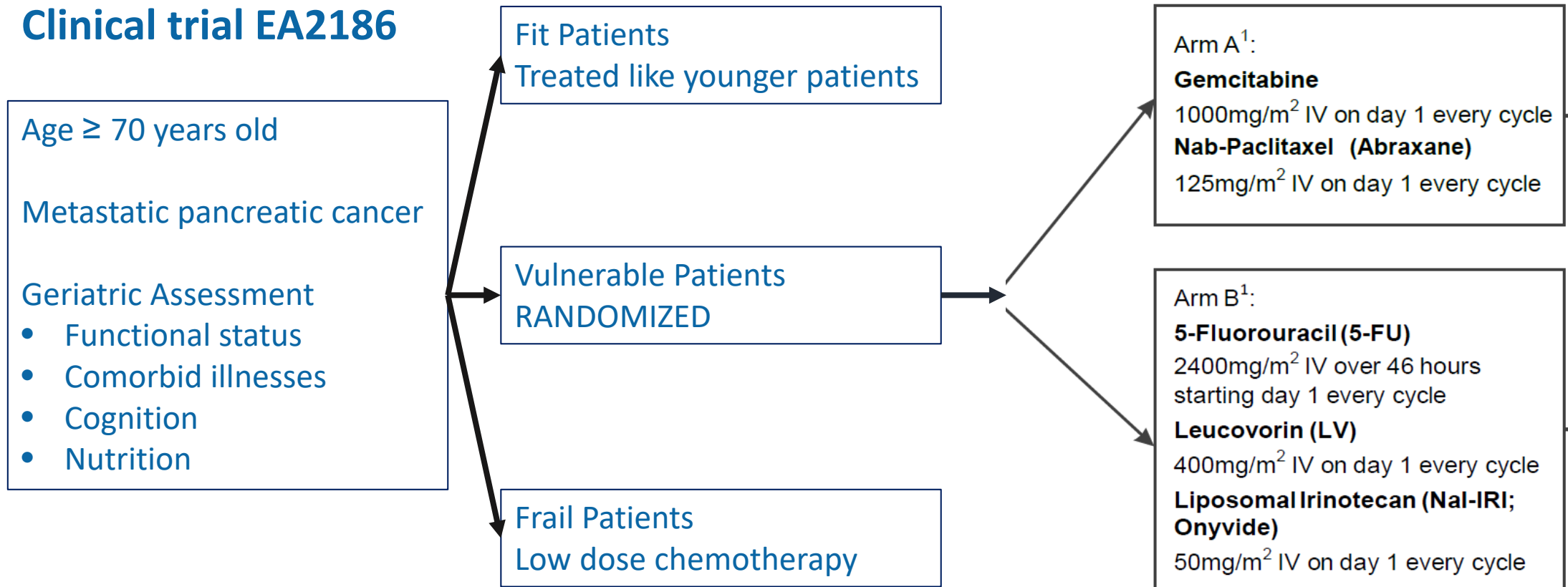
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- Hawaii patients = 47% are 70+ yr (average 69 yrs)
- Patients on clinical trial = 20% are 70+ yr (average 63 yrs)
  - Clinical trial results may not apply to older patients
- Older patients do not usually fare as well as younger patients
  - Comorbid illnesses (diabetes, high blood pressure, etc)
  - Multiple medications
  - Difficulties with transportation
  - More chemotherapy side effects
- Fit elderly patients do as well as younger patients



# What's the best chemotherapy?

## Clinical trial EA2186

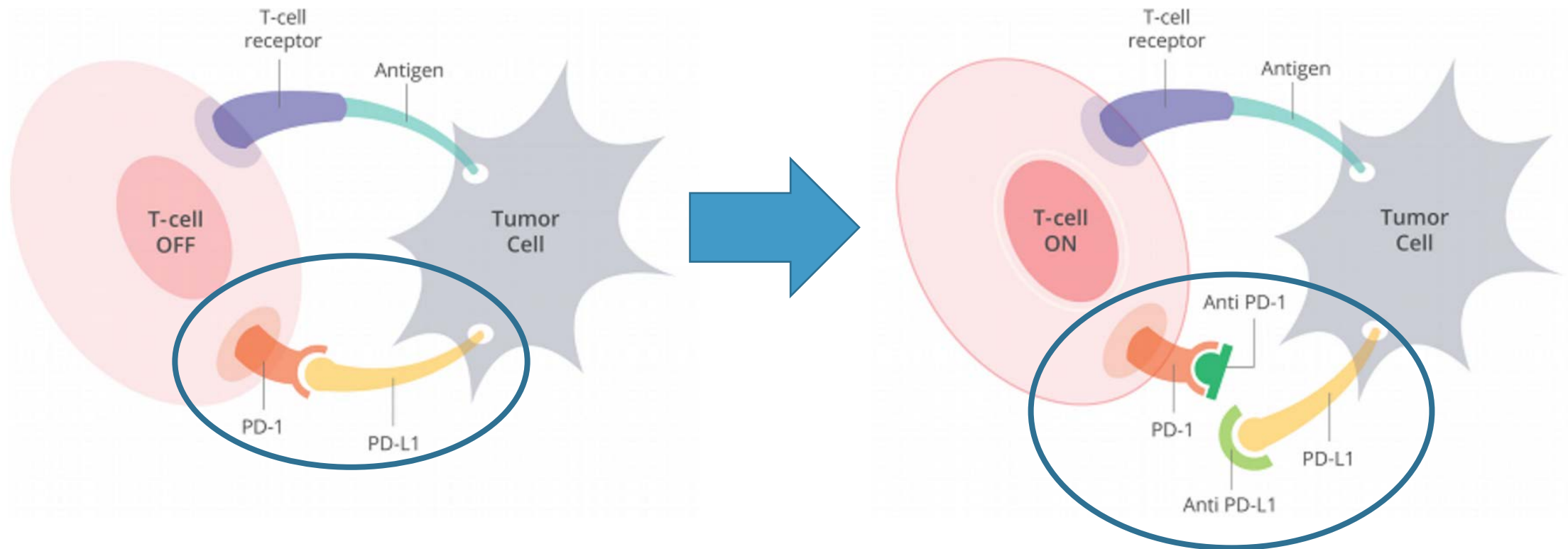


**Geriatric assessment may help to personalize treatment for elderly patients with pancreatic cancer**



# Immunotherapy for pancreatic cancer

- Immune checkpoint inhibitors = medicines that “remove the brakes” to allow the immune system to treat cancer





# Immunotherapy for pancreatic cancer

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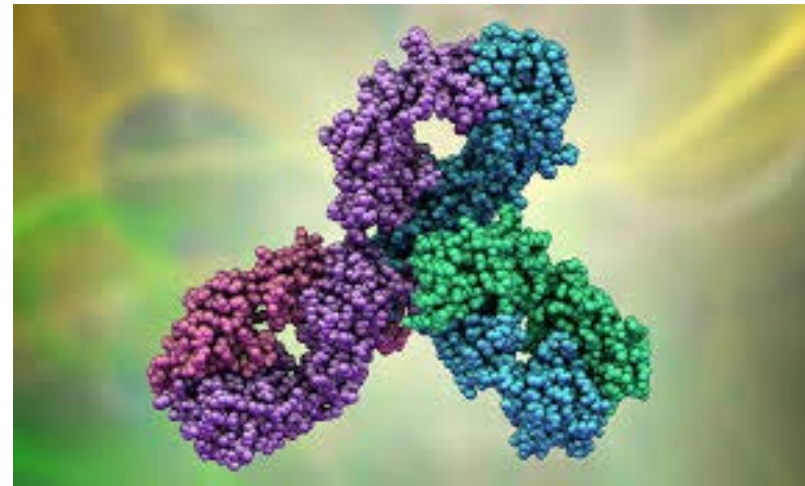
- Initial studies of immunotherapy in pancreatic cancer did not show a benefit
- Immunotherapy is very effective for MSI-H cancers
  - MSI-H cancer cells do not repair mistakes in DNA making them susceptible to immunotherapy
  - Immunotherapy is an excellent treatment for MSI-H colon cancers
  - Small number (1-3%) of pancreatic cancers are MSI-H



# Pembrolizumab for MSI-H pancreatic cancer

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- Pembrolizumab is an immune checkpoint inhibitor
- Tested in MSI-H pancreatic cancers
- 18% of the tumors shrunk by at least one-third
- Cancers responded for an average of 13 months
- **Identifying MSI-H pancreatic cancer allows for personalized treatment**





# Summary

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- Adjuvant chemotherapy improves survival after surgery for early stage pancreatic cancer
- Neoadjuvant therapy may offer additional benefits
- Ongoing trial comparing neoadjuvant and adjuvant therapy
- Research in advanced pancreatic cancer focuses on personalizing treatment
  - Geriatric assessment for elderly patients
  - Immunotherapy for patients with MSI-H pancreatic cancer



**Mahalo!**