

# Survivorship After HCT During the COVID-19 Pandemic

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SCCA/Fred Hutch Long-Term Follow-Up

The Fred Hutch BMT Program at Seattle Cancer Care Alliance

**UW Medicine**



**Seattle Children's**  
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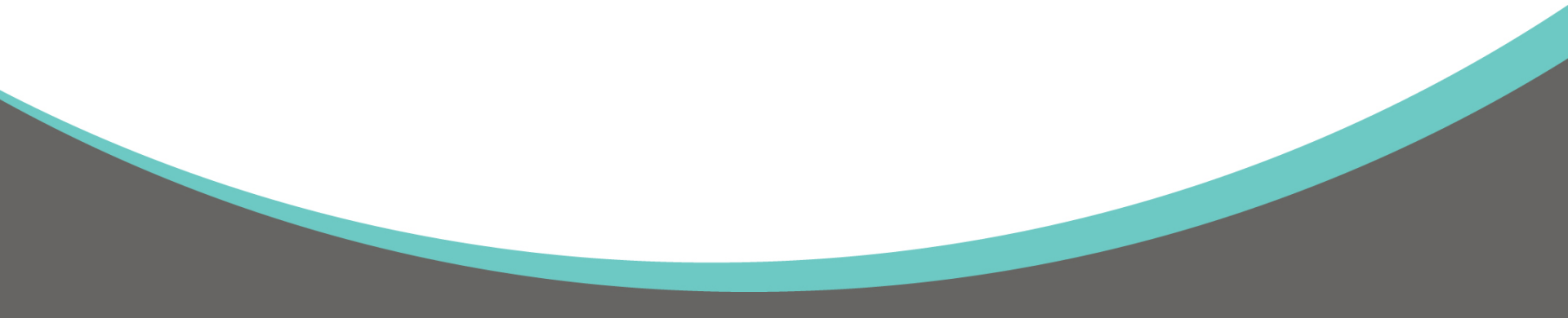
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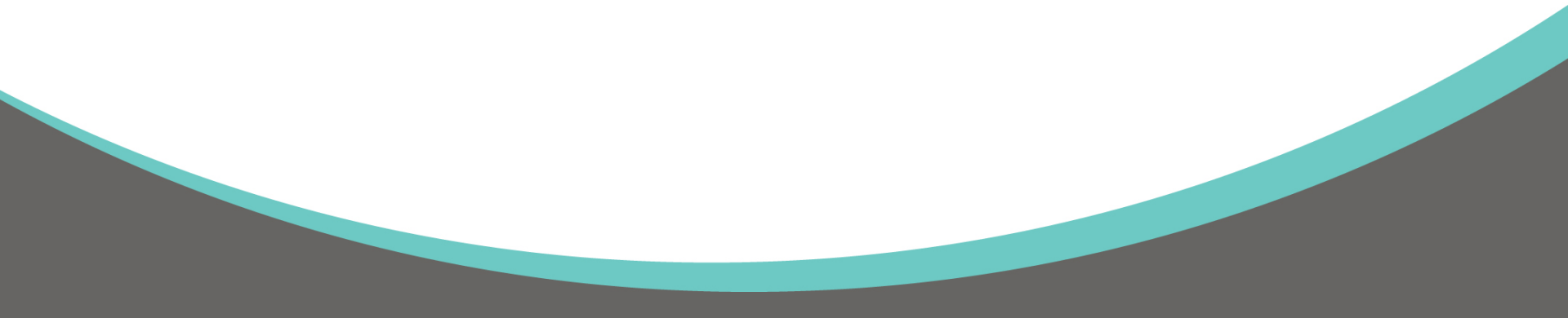
# Disclosure

- No conflict of interest to disclose

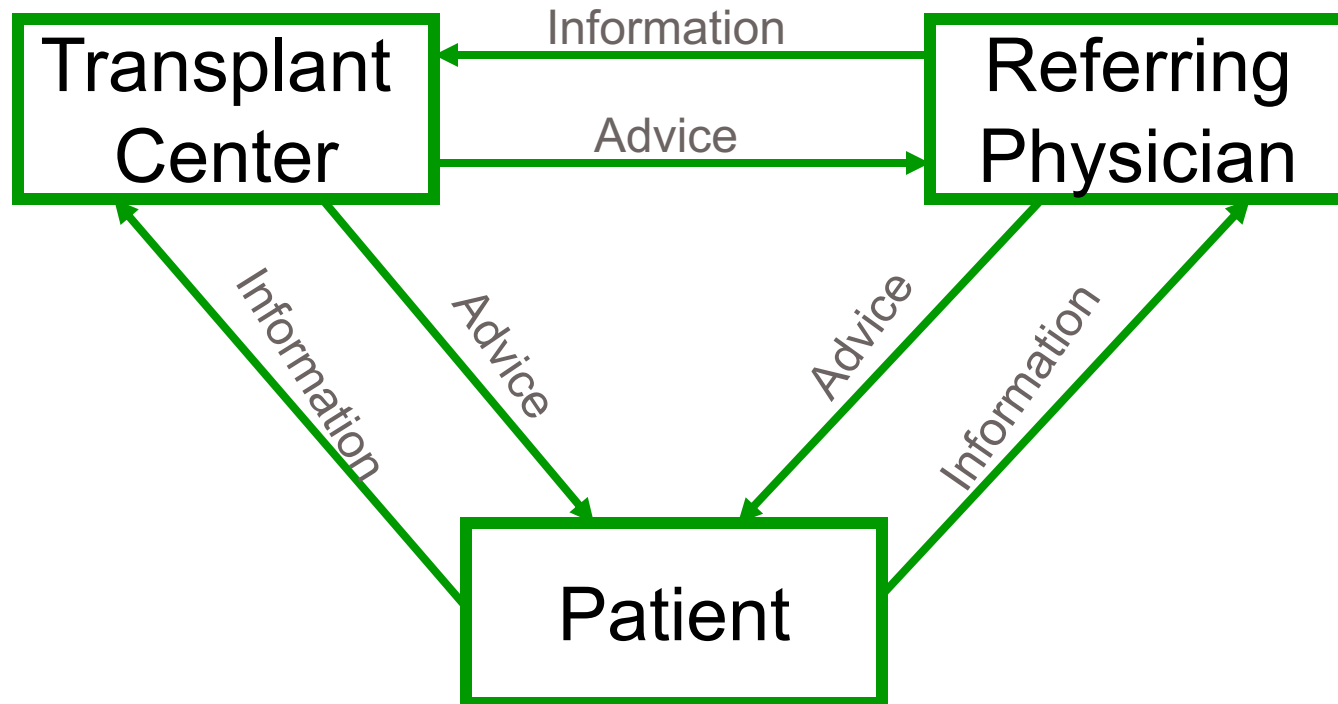
# Outline

- Long-Term Follow-Up (LTFU) at SCCA/Fred Hutch
  - Effect of COVID-19 pandemic on LTFU
  - Survivorship
    - Fatigue
    - Nutrition
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# LTFU

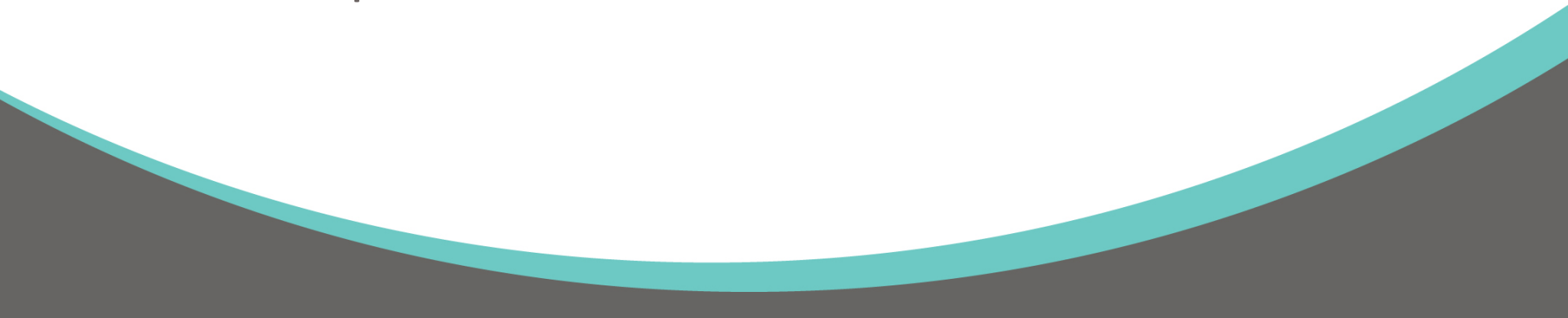
- Offer lifelong consultation to approximately 6000 post-transplant patients and their primary providers.
  - Collaborative management model between LTFU/patient/primary provider
  - Conduct research
  - Provide clinical services
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# Collaborative Management Model



# LTFU Survivorship Care Delivery

“Collaborative Management Model”

- **Consultation Service**
    - Pre-discharge Home LTFU Consultation Clinic (*between days 80-100 post-transplant*)
    - Chronic GVHD Clinic
    - Comprehensive 1-yr post transplant evaluation
    - Telemedicine consultation to patients and primary care providers
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# LTFU and COVID-19 pandemic

## March 2020

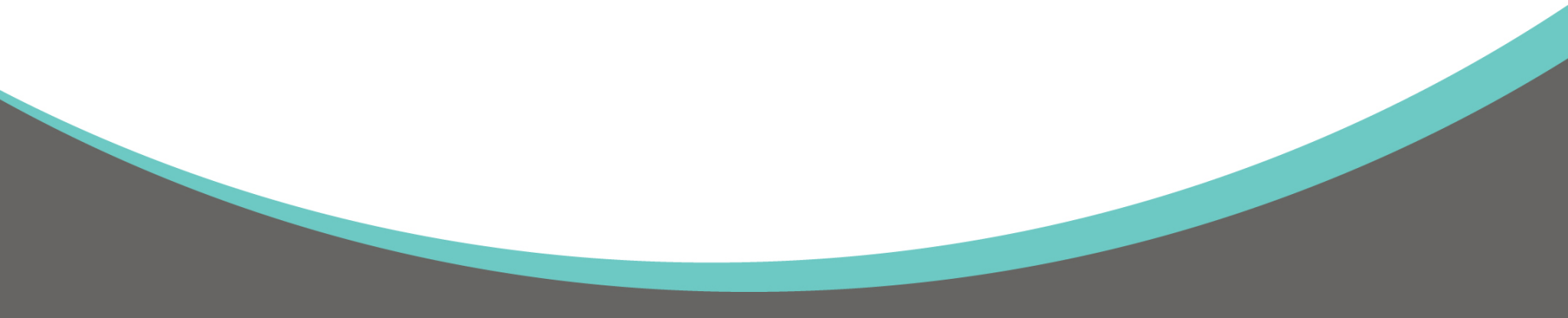
- Pre-discharge home LTFU consult clinic performed via TeleHealth
- Comprehensive annual evaluations deferred
- Non-urgent chronic GVHD clinics changed to TeleHealth
- Urgent GVHD clinics remained in person.

\*Universal masking, symptom screen prior to appt, day of appt\*

## June 2020

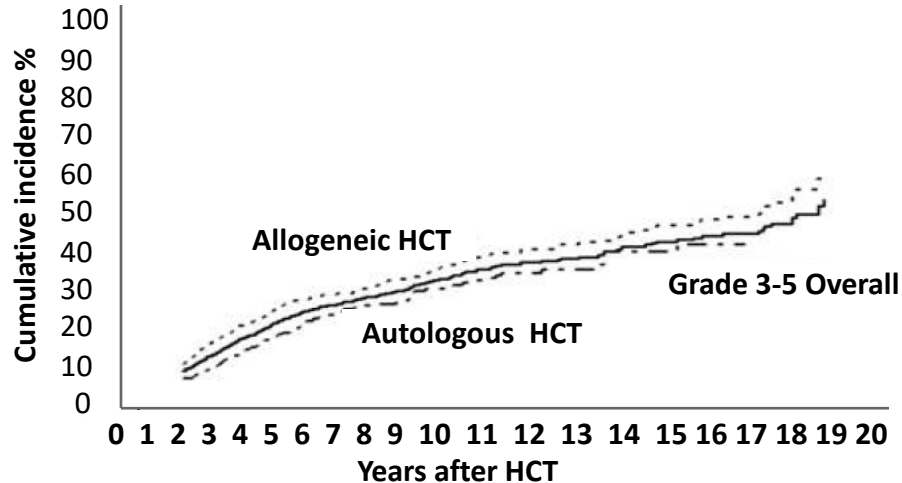
- Pre-discharge home LTFU consult clinic seen in clinic
- Comprehensive annual evaluations resumed in clinic
- Chronic GVHD clinics resumed in clinic.
- TeleHealth clinics remain an option

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# Morbidity

HCT survivors have higher risk of chronic health problems in comparison with siblings



Relative risk (RR)  
compared with HCT siblings

Chronic problems	RR	95% CI
Overall	1.88	1.39-2.11
Grade 3-5	3.52	2.31-5.38

# Challenges faced by stem cell transplant survivors involve many systems

## Neuropsychologic effects

- Depression, anxiety
- Post-traumatic stress disorder
- Neurocognitive deficits

## Pulmonary diseases

- Bronchiolitis obliterans syndrome
- Cryptogenic organizing pneumonia
- Pulmonary hypertension

## Kidney diseases

- Thrombotic microangiopathy
- Nephrotic syndrome
- Idiopathic CKD
- Persistent acute kidney injury
- BK virus nephropathy

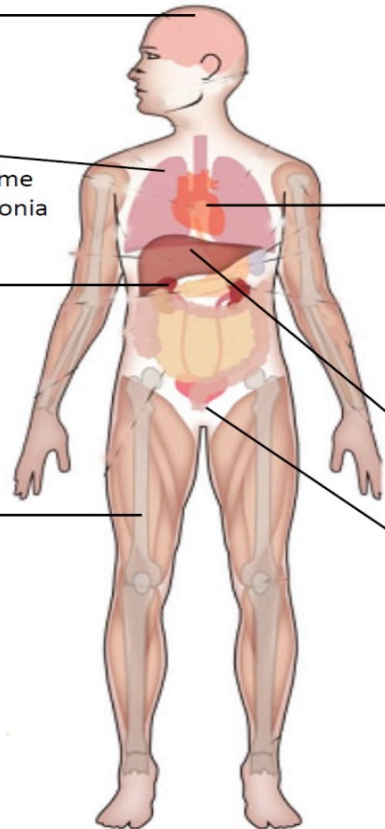
## Iron overload

## Bone diseases

- Osteopenia
- Osteoporosis
- Avascular necrosis

## Endocrine diseases

- Thyroid dysfunction
- Gonadal dysfunction
- Diabetes
- Dyslipidemia
- Metabolic syndrome
- Adrenal insufficiency



## Solid cancers

- Oral cavity
- Skin
- Breast
- Thyroid
- Other sites

## Cardiovascular diseases

- Cardiomyopathy
- Congestive heart failure
- Valvar dysfunction
- Arrhythmia
- Pericarditis
- Coronary artery disease

## Liver diseases

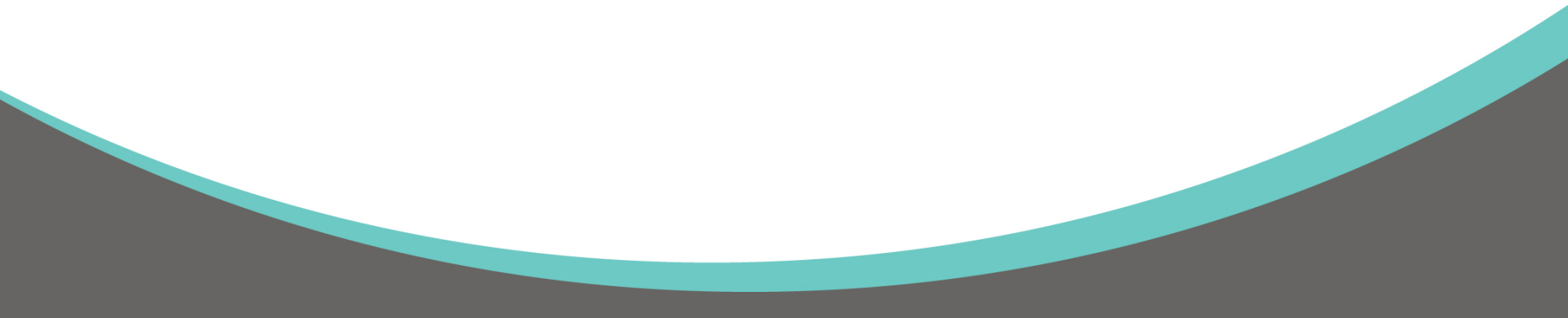
- Hepatitis B, Hepatitis C, liver cirrhosis
- Nodular regenerative/focal nodular hyperplasia

## Gonadal dysfunction/infertility

## Infectious diseases

- *Pneumocystis jirovecii*
- Encapsulated bacteria
- Fungi
- Varicella-zoster virus
- Cytomegalovirus
- Respiratory syncytial virus
- Influenza virus
- Parainfluenza virus

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# Cancer-related fatigue

- A distressing, persistent, subjective sense of physical, emotional, and/or cognitive tiredness or exhaustion related to cancer or cancer treatment that is not proportional to recent activity and interferes with usual functioning.
- Mild, moderate, severe (scale 0-10)

# Cancer-related fatigue: Etiology

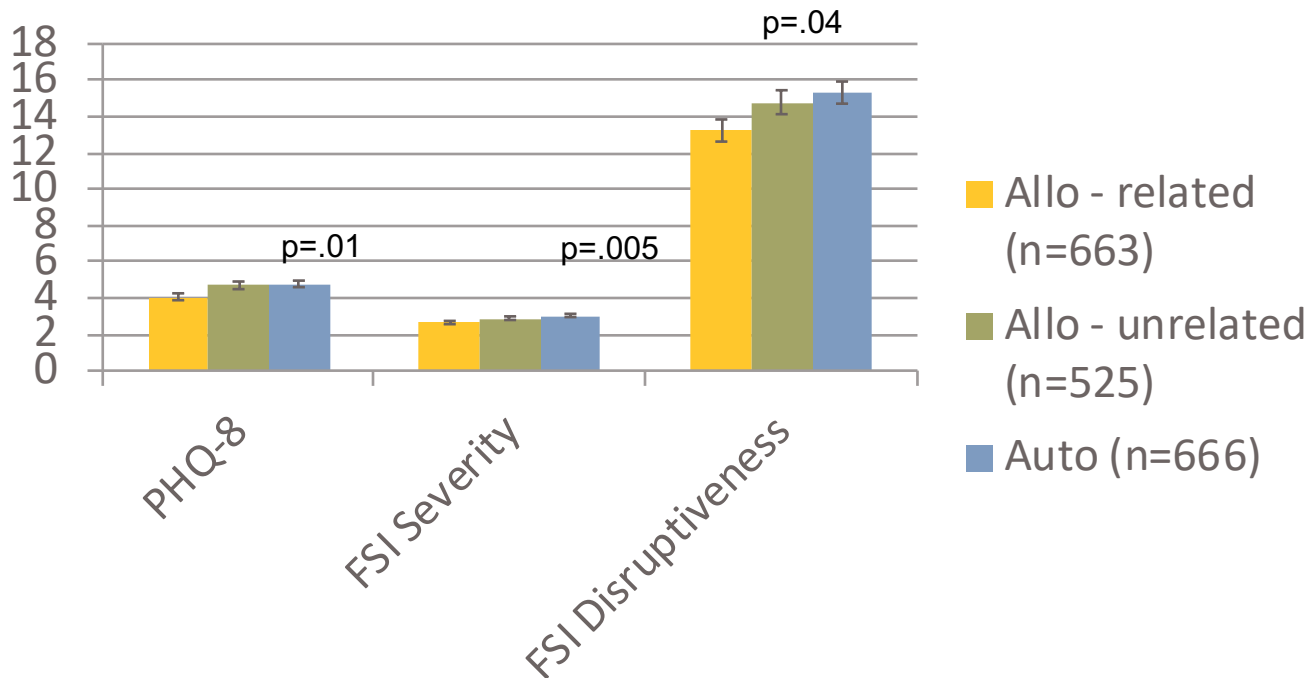
- Treatable co-morbidities
  - Endocrine, anemia, cardiac dysfunction, etc.
- Emotional distress
- Medications
- Pain
- Sleep Disturbance
- Nutrition
- Deconditioning
- Chronic GVHD
- Inflammation

# Depression and Fatigue: Risk

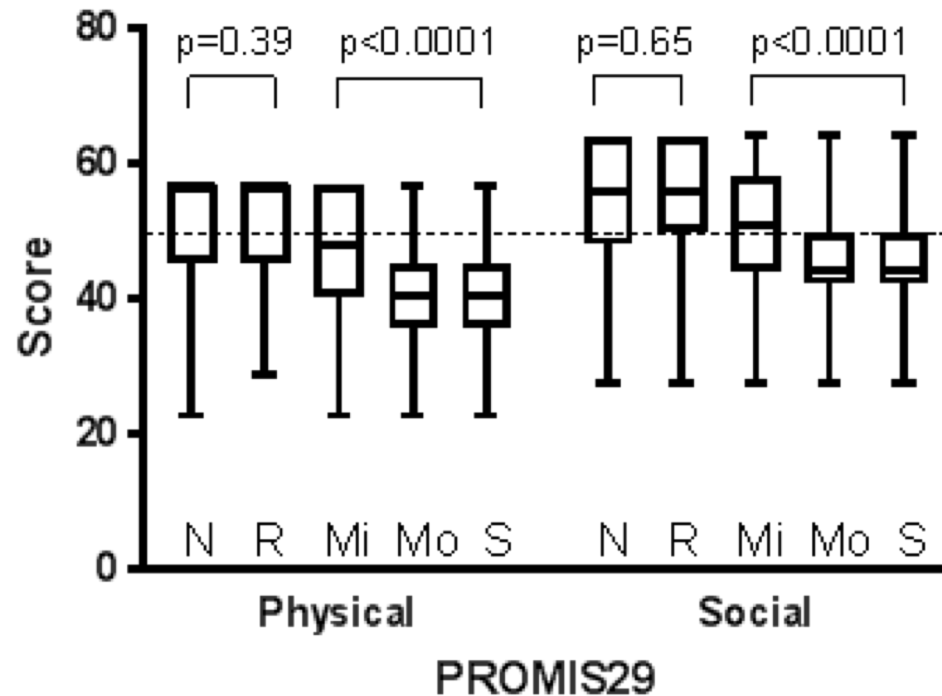
N=1869

Mod-severe depression  
Mod-severe fatigue

	<u>Allo:</u>	<u>Auto</u>
Mod-severe depression	14%	15%
Mod-severe fatigue	31%	31%



# PROMIS Global Health Physical (GH-Phys) and Social score (GH-Soc) according to history and severity of prior cGVHD history



# Cancer-related fatigue: Treatment

- Treat/prevent contributing/underlying factors
- Energy conservation
- Physical activity
- Cognitive Behavioral Therapy
- Nutrition consultation
- Psychostimulants

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# Optimize your nutrition to benefit:

- Cardiac health/metabolic syndrome (dyslipidemia, hypertension, diabetes)
- Bone health (osteopenia, osteoporosis)
- Infection risk
- Recovery

# Nutrition: Cardiac Health

- Reduce daily fat intake
- Consume diet rich in omega-3 fatty acids
- Maintain a normal weight
- Consume plant-based foods--keep it colorful!
- Limit processed, high fat, high sugar foods



# Nutrition: Bone Health

- Calcium requirement of:
  - 1000-1200 mg/d for M >18 yrs
  - 1000-1200 mg/d for F >18 yrs on HRT
  - 1500 mg/d for F >18 yrs not on HRT
  - 1500 mg/d for M &F >18 yrs on prednisone
- Vitamin D: 1000 IU/d (maintenance) or 50,000 IU/wk if (deficiency)
- Low Na<sup>+</sup> diet (<4g/d) while on prednisone

# Nutrition: Food Safety

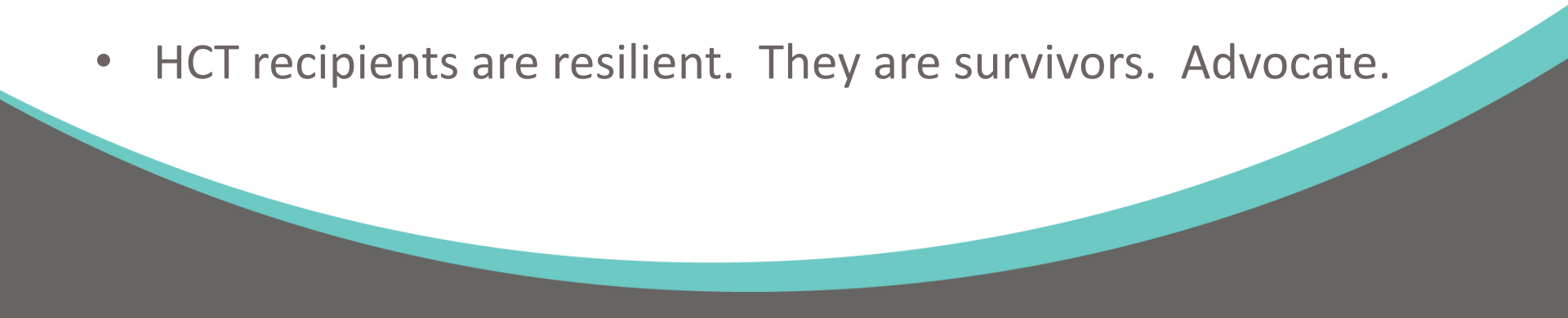
- Raw, undercooked meat, fish, eggs, etc.
- Raw, unshelled nuts, seeds
- Lunch meats unless heated until steamed
- Blue-veined cheese, uncooked soft cheese
- Unwashed raw/frozen vegetables
- Raw honey
- Miso products
- Kombucha

<https://www.seattlecca.org/emotional-and-spiritual-support/medical-support-services/nutrition>

# Nutrition: Recovery

- Increased need to repair damaged tissues, regain strength and sometimes weight.
  - Increase protein (lean meat, dairy products, legumes, nuts, soy)
  - Consider small meals/frequent snacks incorporating nutrient-dense healthy fats.

# Summary

- HCT recipients have increased relative risk of chronic health problems after transplant compared to their siblings.
  - Fatigue is multifactorial in nature and likely requires a multidisciplinary approach for treatment.
  - Optimizing nutrition may attenuate the increased risk of chronic conditions in the post-transplant setting.
  - COVID-19 pandemic creates new challenges but has provided opportunity to re-evaluate system processes and hopefully improve upon them.
  - HCT recipients are resilient. They are survivors. Advocate.
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Thank you!