

EXPINKT™

Establishing exercise opportunities for cancer survivors

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EXPINKT™

- ◆ The Exercise Training Beyond Breast Cancer (EXPINKT™) programme was established:
 - ◆ To meet the specific needs of women, either in active treatment or who have completed treatment, and
 - ◆ To provide teaching and learning opportunities for fourth year students of Exercise Prescription

What we do

- ◇ Combination of:
 - ◇ Resistance exercise
 - ◇ Aerobic exercise
- ◇ Three levels
- ◇ Individualised
- ◇ Supervised
- ◇ Progressive
- ◇ Symptom-limited



EXPINKT™ – The Process

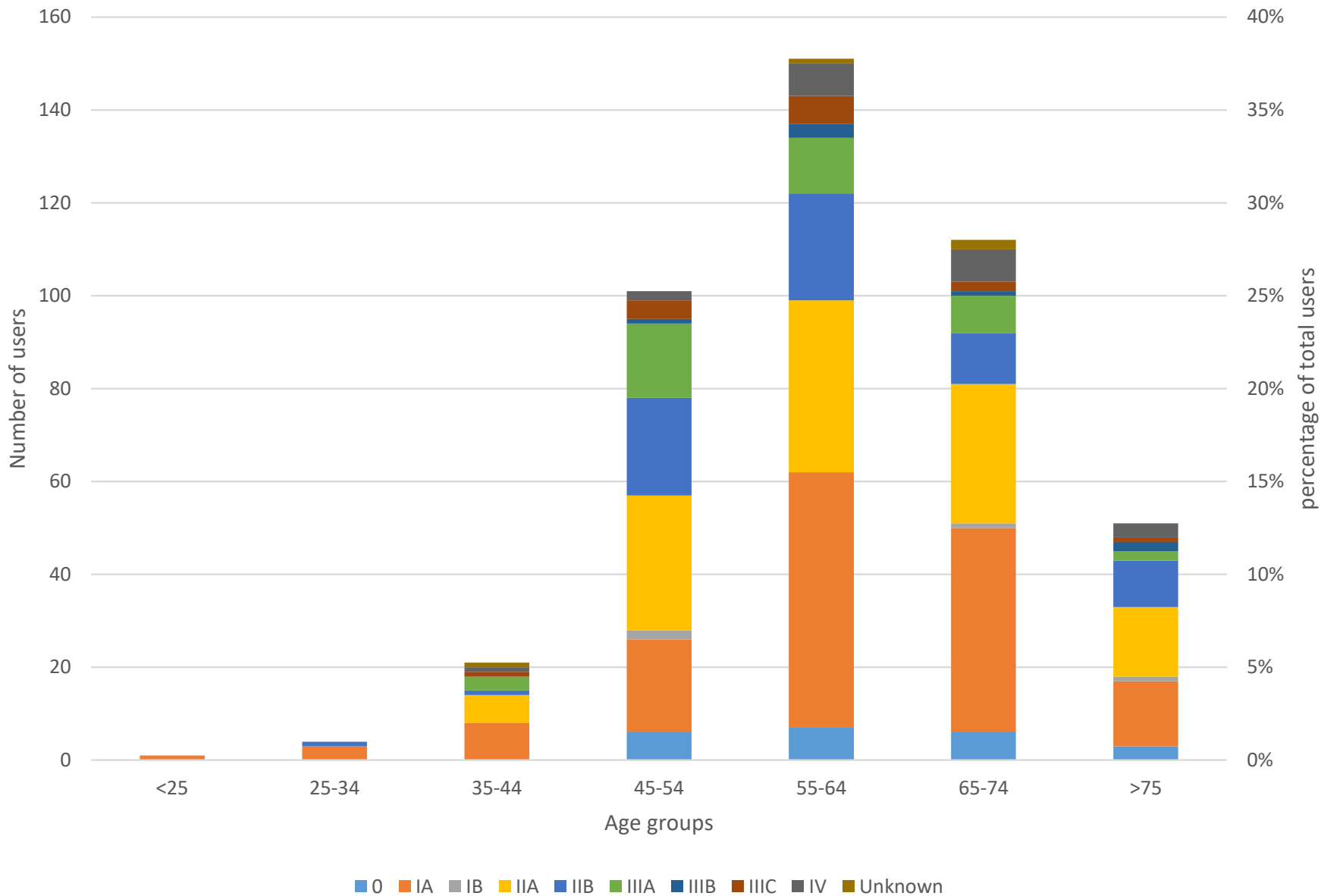
- ◆ Referrals initiated at oncology consultation
- ◆ Some by self-referral – all referred back to Oncology
- ◆ Forms sent to each individual
- ◆ Follow up phone call
- ◆ Initial consultation
- ◆ First exercise session

EXPINKT™ – The Numbers

- ◇ Since September 2009:
 - ◇ 505 referrals – 450 breast cancer
 - ◇ Average age = 60.7 years (26-89y)
 - ◇ ~16% decline or fail to attend first appt
 - ◇ Majority reside within the Dunedin metropolitan area
- ◇ Currently 50-60 new referrals per year
- ◇ ~ 100-120 clients per week

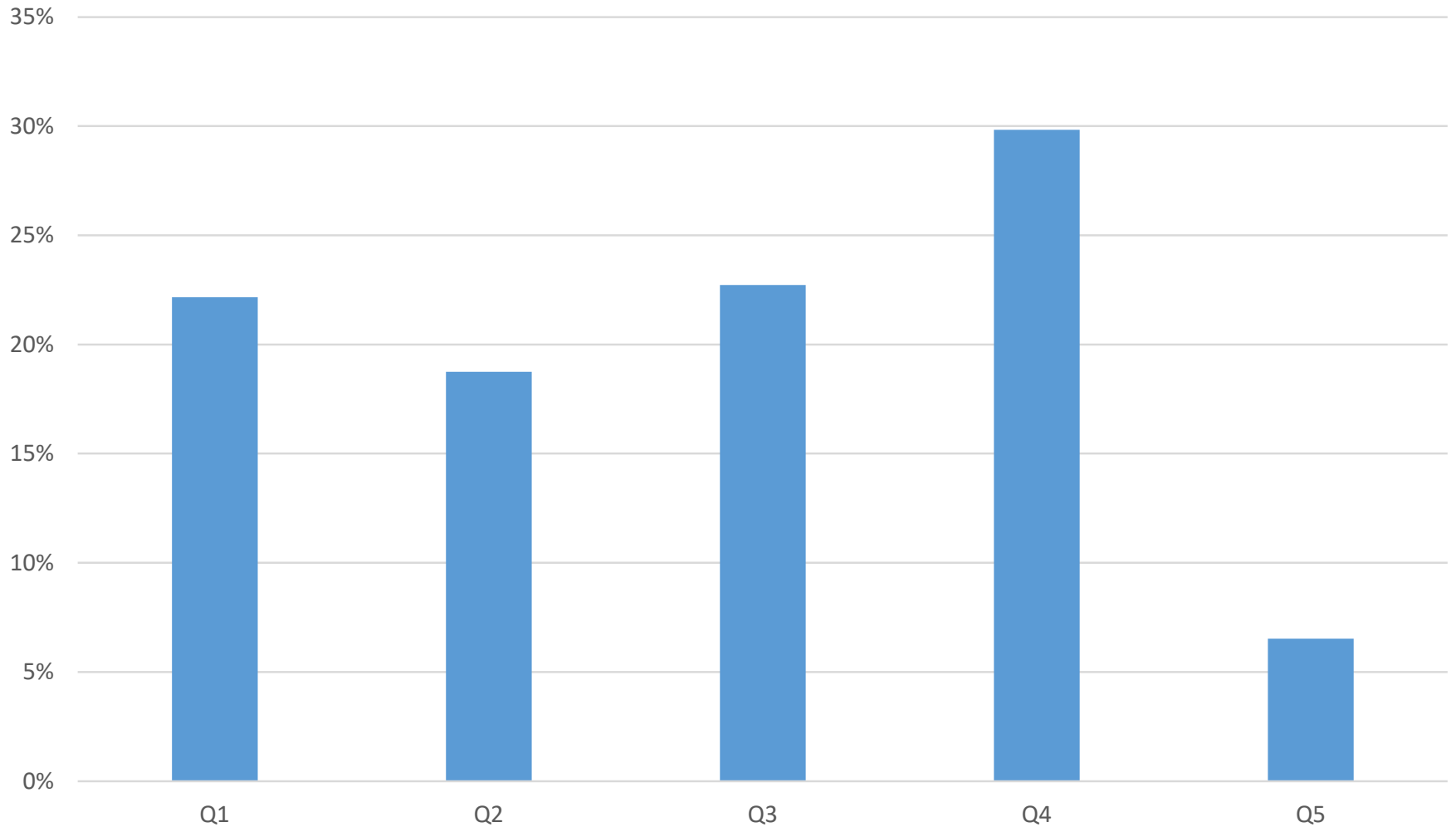
EXPINKT stage and age data

Expinkt users age: cancer stage and age group



Indices of Multiple Deprivation (2013)

EXPINKT users by NZ IMD classification



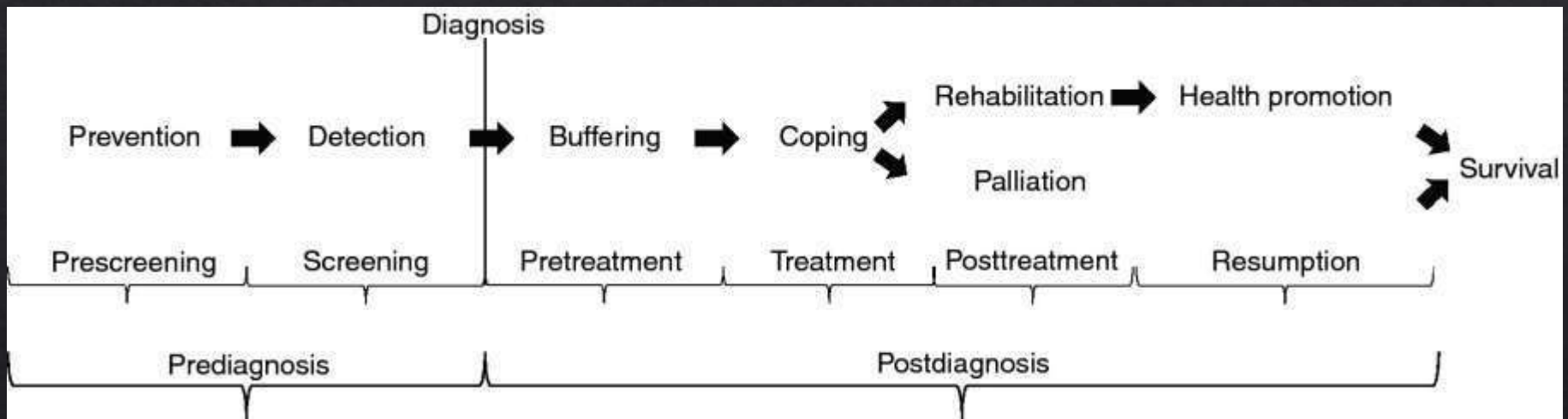
The Future

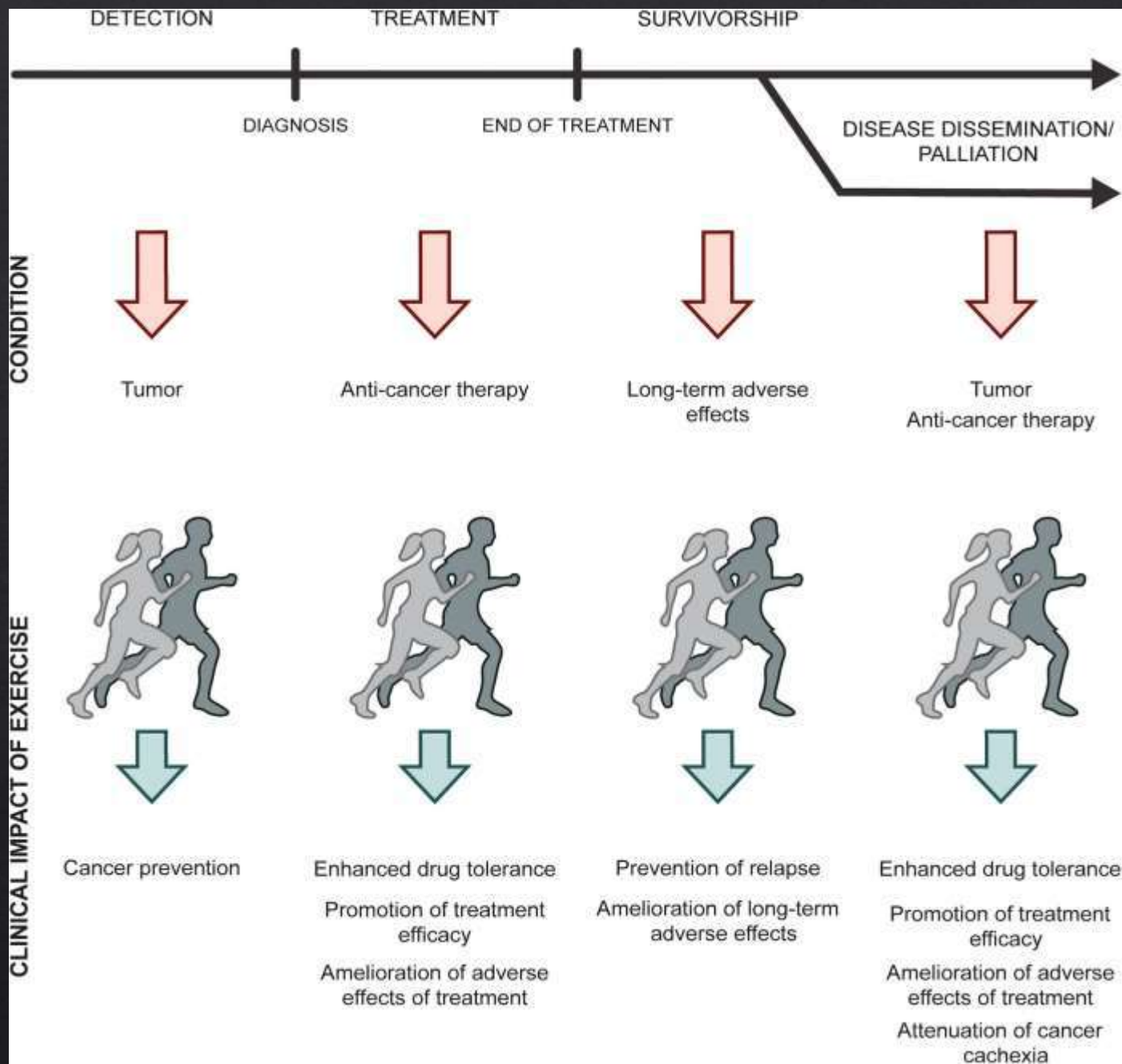
- ◆ Funding
 - ◆ Currently – Department and Alumni
 - ◆ Need more trainers, longer opening hours
- ◆ Other cancers
- ◆ Succession

Breast Cancer

- ◇ More than 3,200 New Zealand women and ~25 men are diagnosed with breast cancer every year
- ◇ Five year survival rate is ~87%
- ◇ Many survivors do not survive 'well'
- ◇ Survival has to be about more than quantity
- ◇ Exercise is a key factor in cancer rehabilitation and quality of life
- ◇ Exercise should be part of standard care – a call made by the Clinical Oncology Society of Australia

Exercise Across the Cancer Continuum





Exercise and Cancer Survival

- ◇ Research - 32 studies, 68,285 cancer survivors comparing those reporting little or no exercise to exercising survivors:
 - ◇ 28-44% decrease in risk of cancer-related mortality
 - ◇ 21-25% decrease in risk of cancer recurrence
 - ◇ 25-48% decrease in risk of all-cause mortality

So are cancer survivors exercising?

- Despite these well documented dramatic effects, the great majority of cancer survivors do not participate in regular physical activity
- Only 25%-45% of cancer survivors meet exercise recommendations of 30 mins/day, 5 days /wk, following treatment completion
- Many cancer survivors decrease their physical activity after diagnosis
- Women with breast cancer exercise, on average, 2 hours less per week 1 year after diagnosis than pre-diagnosis.

Challenges in Exercise Programming

- ◇ Direct effects of treatment
 - ◇ Physical effects, psychological effects
- ◇ Indirect effects
 - ◇ Unseen changes in systems physiology
 - ◇ Cardiotoxicity most important
 - ◇ Aging effects of treatment

Exercise Challenges

- ◇ Surgery
 - ◇ Physical limitations
 - ◇ Wound healing
 - ◇ Aerobic capacity limited
 - ◇ Brain surgery – may affect speech, balance and memory
 - ◇ Psychological issues
 - ◇ Eg disfigurement – person is uncomfortable in public exercise situations

Exercise Challenges

- Chemotherapy
 - Physical/Physiological
 - Heart/lung problems – aerobic and strength exercise may be limited
 - Loss of sensation perception in the lower limbs/feet may affect balance, need exercises in a stable or supported situation
 - Infection risk. Facilities must be kept clean

Exercise Challenges

- Chemotherapy
 - Physical/Physiological
 - Fatigue is often present and for several months after treatment – can't do as much exercise or high intensity exercise
 - Psychological
 - Memory deficits – may forget exercises
 - Hair loss – wigs may cause over-heating during exercise

Exercise Challenges

- ◇ Radiotherapy

- ◇ Physical/Physiological

- ◇ Potential heart/lung involvement – no high intensity exercise

- ◇ Lymphoedema – use exercises that actively promote muscle contraction

- ◇ Skin issues

- ◇ Psychological

- ◇ Disfigurement – dependent on site irradiated

- ◇ Thinking, learning and memory

Exercise Benefits

Active treatment

- ↑ physical abilities
- ↑ balance, reduce falls risk
- Maintain muscle and bone health
- ↓ CHD risk
- ↓ nausea, fatigue, anxiety and depression
- Maintain independence
- ↑ self-esteem and quality of life
- Assist weight control
- ↓ cognitive deficits

Post-treatment

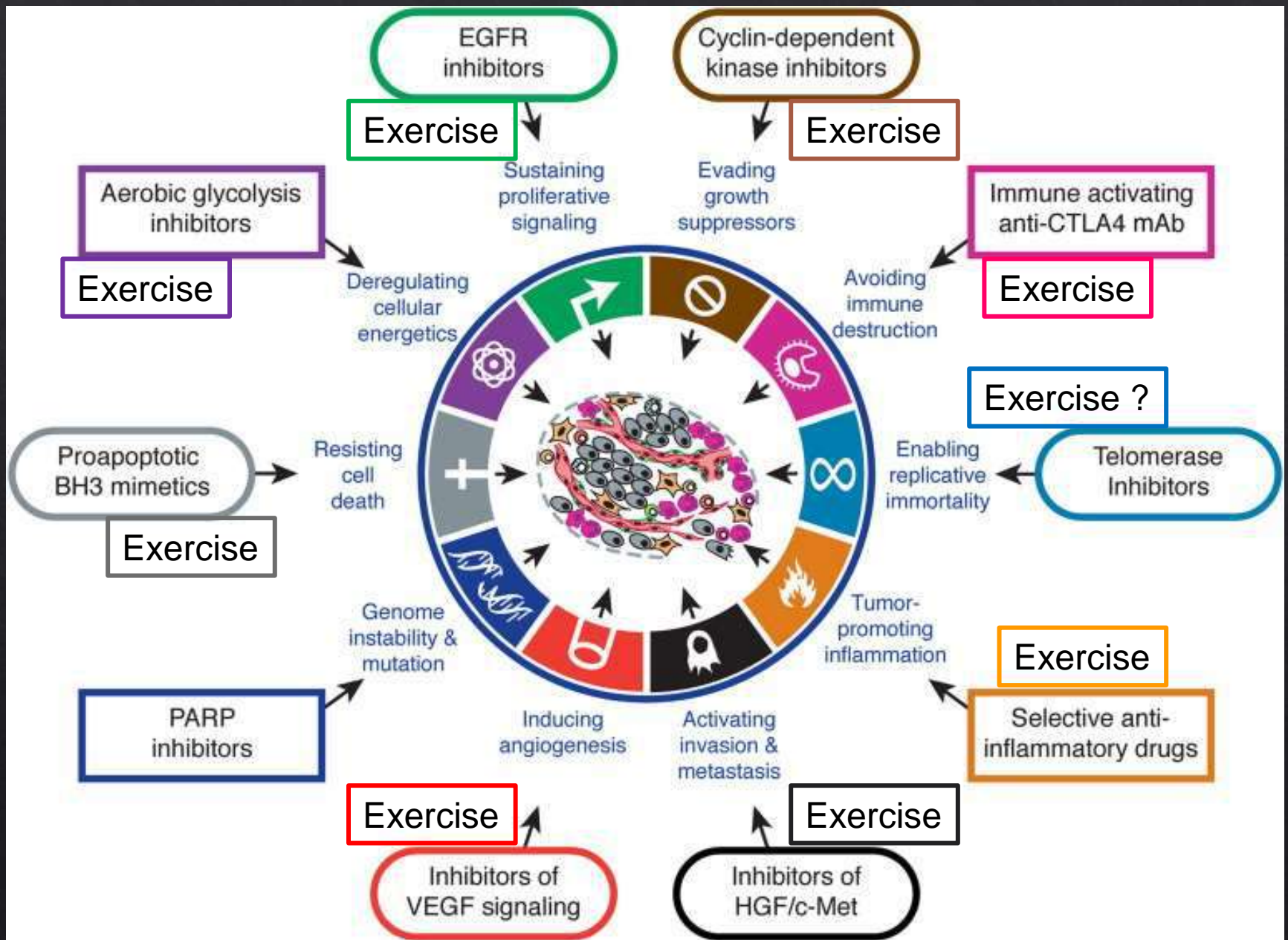
- ◇ ↑ Aerobic fitness
- ◇ ↑ Muscle strength
- ◇ ↑ Functional capacity
- ◇ ↑ Bone health
- ◇ ↑ Quality of life
- ◇ ↑ Body image
- ◇ ↑ Self-esteem
- ◇ ↓ Lymphoedema risk/symptoms
- ◇ ↓ Fatigue, pain, depression and anxiety

How might exercise convey benefits across the continuum?

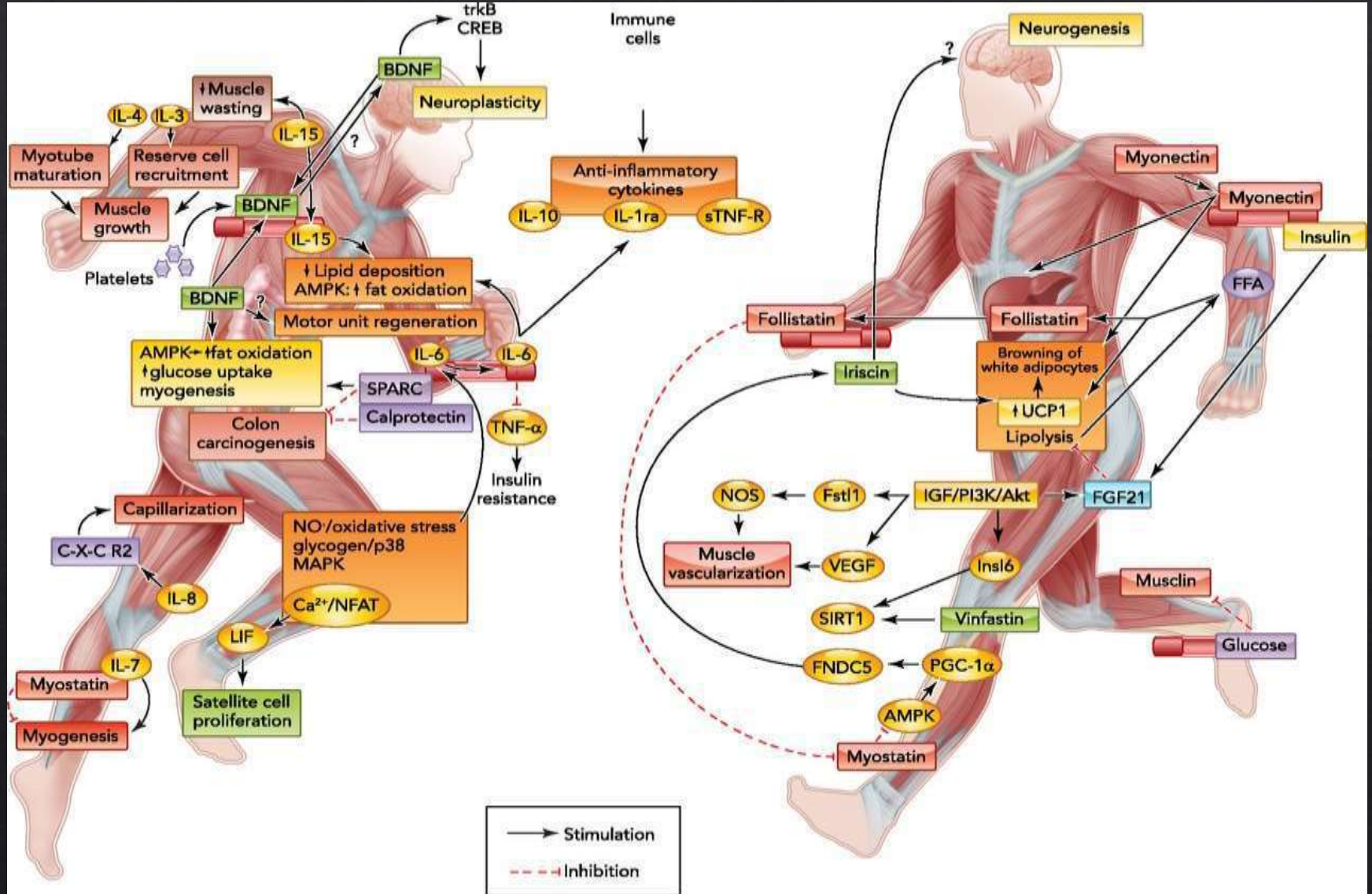
- ◆ Research focus shifted from the effects of exercise to HOW exercise can be beneficial
- ◆ Many pathways altered in cancer development, metabolism and progression

How might exercise convey benefits across the continuum?

- ◇ Exercise is considered a 'polypill' in that it has local and systemic effects
- ◇ Exercise may affect all of the known 'hallmarks of cancer'



Summary of the main myokines, their putative effects, and the molecular signals/pathways involved



HE SPRAINED HIS WRIST
INSERTING THE EXERCISE DVD.



Thank you!