



Fanconi Anaemia, Treatment-Related Long-Term Effects and Surveillance

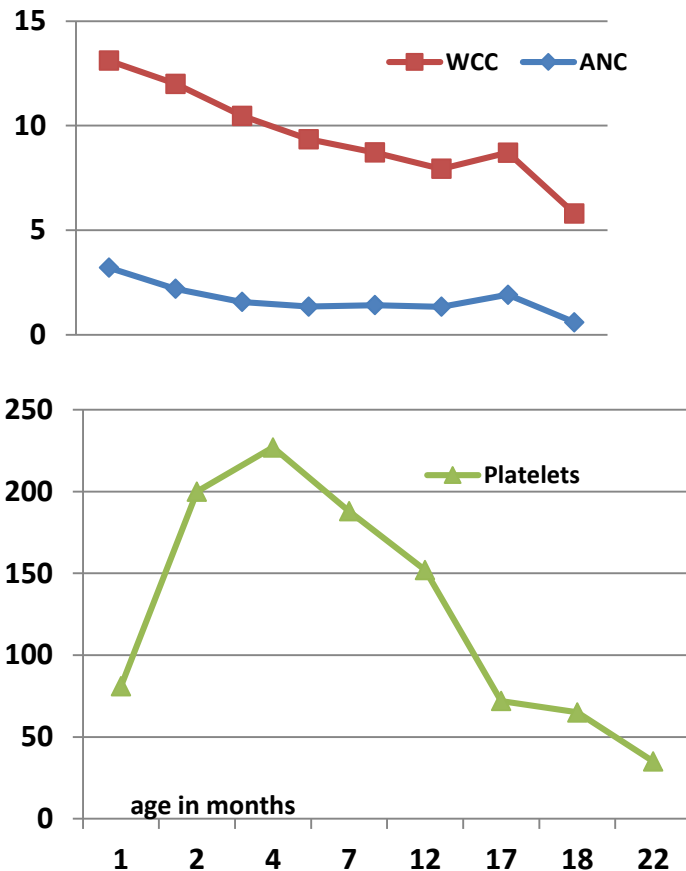
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Fanconi anaemia and the bone marrow – where are we now??

- Most common congenital cause of bone marrow (BM) failure
 - Usually ~5-10 years of age but onset varies
 - Blood counts can wax and wane
 - Some periods of stability
 - Many patients will need BM transplant
- Stem cell transplantation (HSCT)
 - Improved outcomes for patients with FA
 - We are better at doing transplants than we used to be!
 - Long-term effects - many adult FA patients managed within HSCT late effects clinics

Fanconi anaemia – Haematopoietic stem cell transplantation

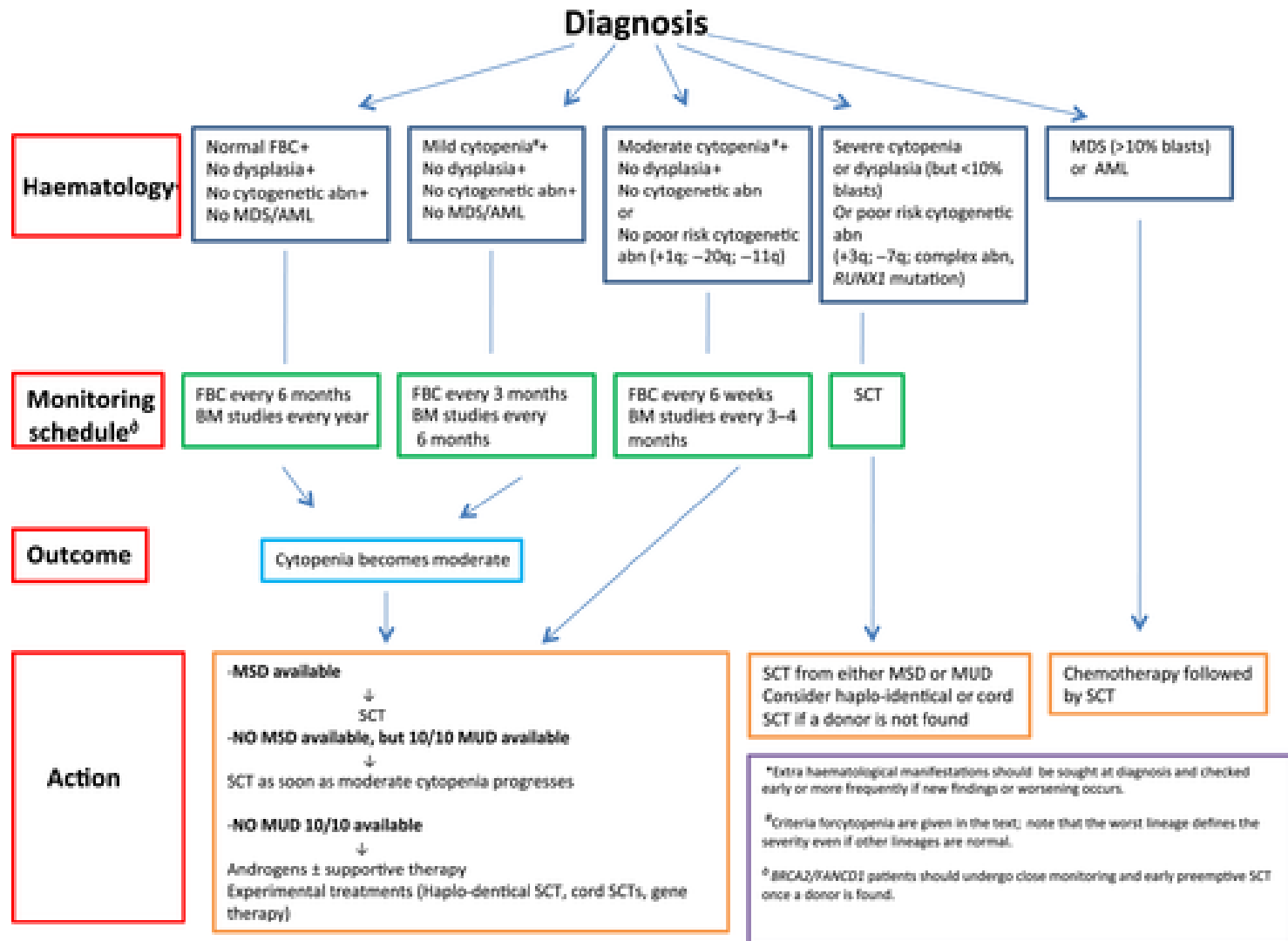
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HSCT – who? how? and when?

	Haemoglobin (g/L)	Neutrophils ($\times 10^9/L$)	Platelets ($\times 10^9/L$)
Mild	>100	1.0-1.5	50-150
Moderate	80-100	0.5-1.0	20-50
Severe	<80	<0.5	<20

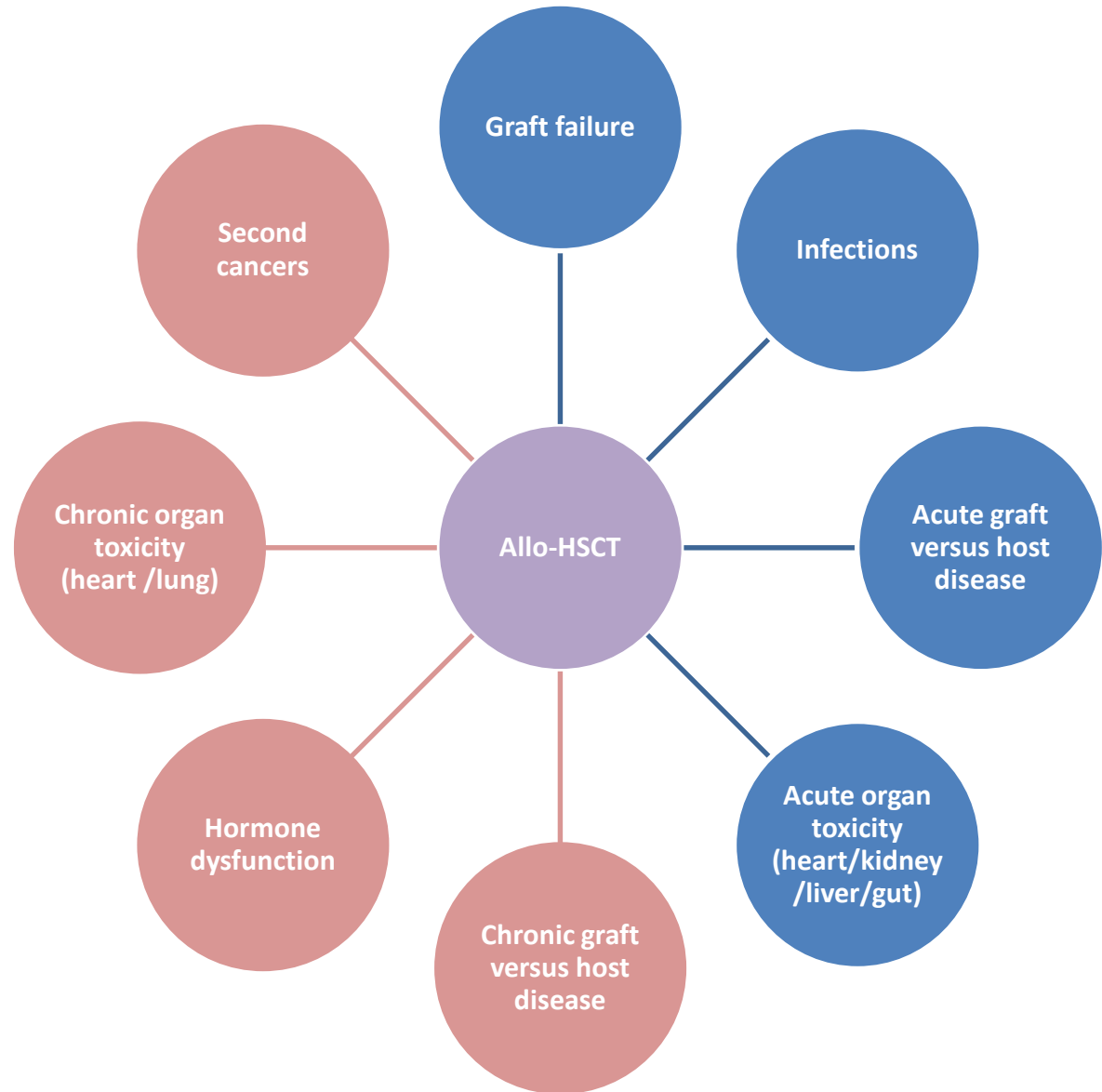
Post-diagnosis monitoring and decision making



Transplantation – risks and complications

Better outcomes:

- Attenuated preparative regimens
- Reduced toxicity
- Risk of unwanted side-effects remain



What is a late effect and why do we monitor?

- *Most literature relates to those diagnosed / treated for a cancer*
- *COG LTFU Guidelines:*

‘..therapy-related complication or adverse effect that persists or arises after completion of treatment (for a malignancy)..’

What is a late effect and why do we monitor?

GOAL:

- *Most literature relates to those diagnosed / treated for a cancer*
- *COG LTFU Guidelines:*

‘..therapy-related complication or adverse effect that persists or arises after completion of treatment (for a malignancy)..’

Increase quality of life and decrease complication-related healthcare costs by providing standardized and enhanced follow-up care throughout the lifespan that:

- Promotes healthy lifestyles
- Provides ongoing monitoring of health status
- Facilitates early identification of late effects
- Provides timely intervention for late effects

COG survivorship guidelines

- Utilised 2+ years following the completion of (cancer) therapy
- Provide a framework for ongoing late effects monitoring in childhood (cancer) survivors

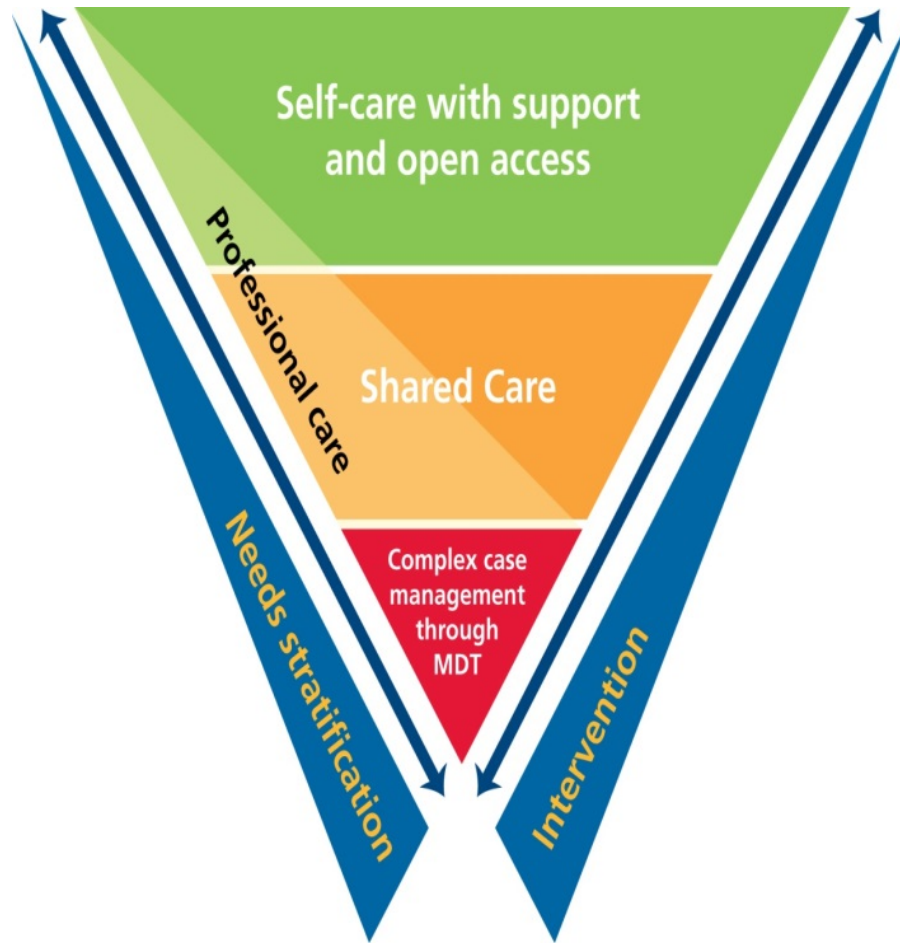
COG survivorship guidelines

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NOT.....guidance for follow-up of a patients primary disease

3 levels of care and support

National
Cancer
Survivorship
Initiative



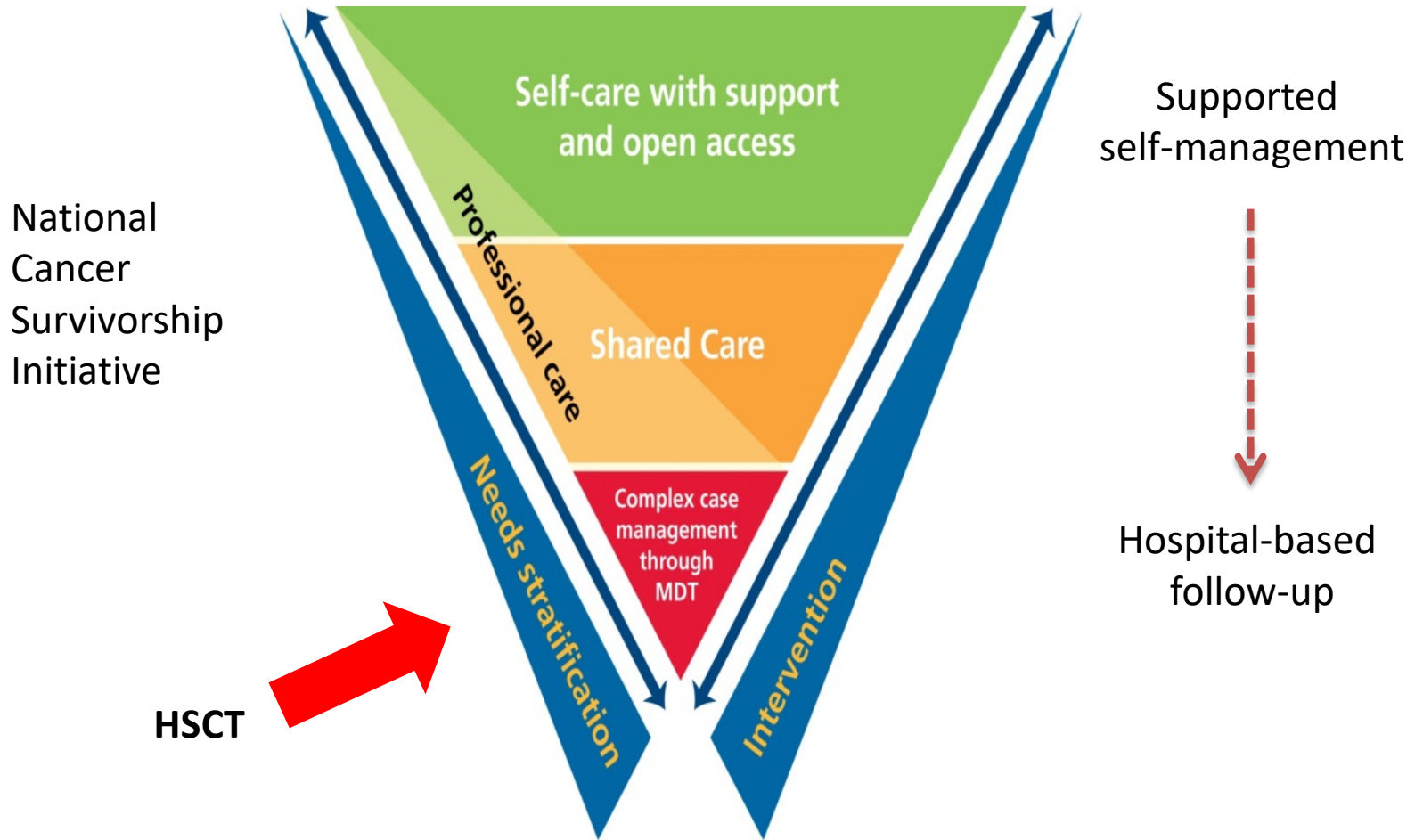
Supported
self-management



Hospital-based
follow-up

Risk Stratified Model of Care

3 levels of care and support



National
Cancer
Survivorship
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HSCT

Supported
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Hospital-based
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Risk Stratified Model of Care

Transplantation late effects

- Complications are caused by many factors:
 - prior treatment
 - transplant intensity
 - transplant preparative regimen
 - stem cell product
 - Type of donor; quality of match
 - underlying disease
 - host genetic factors
 - lifestyle behaviours

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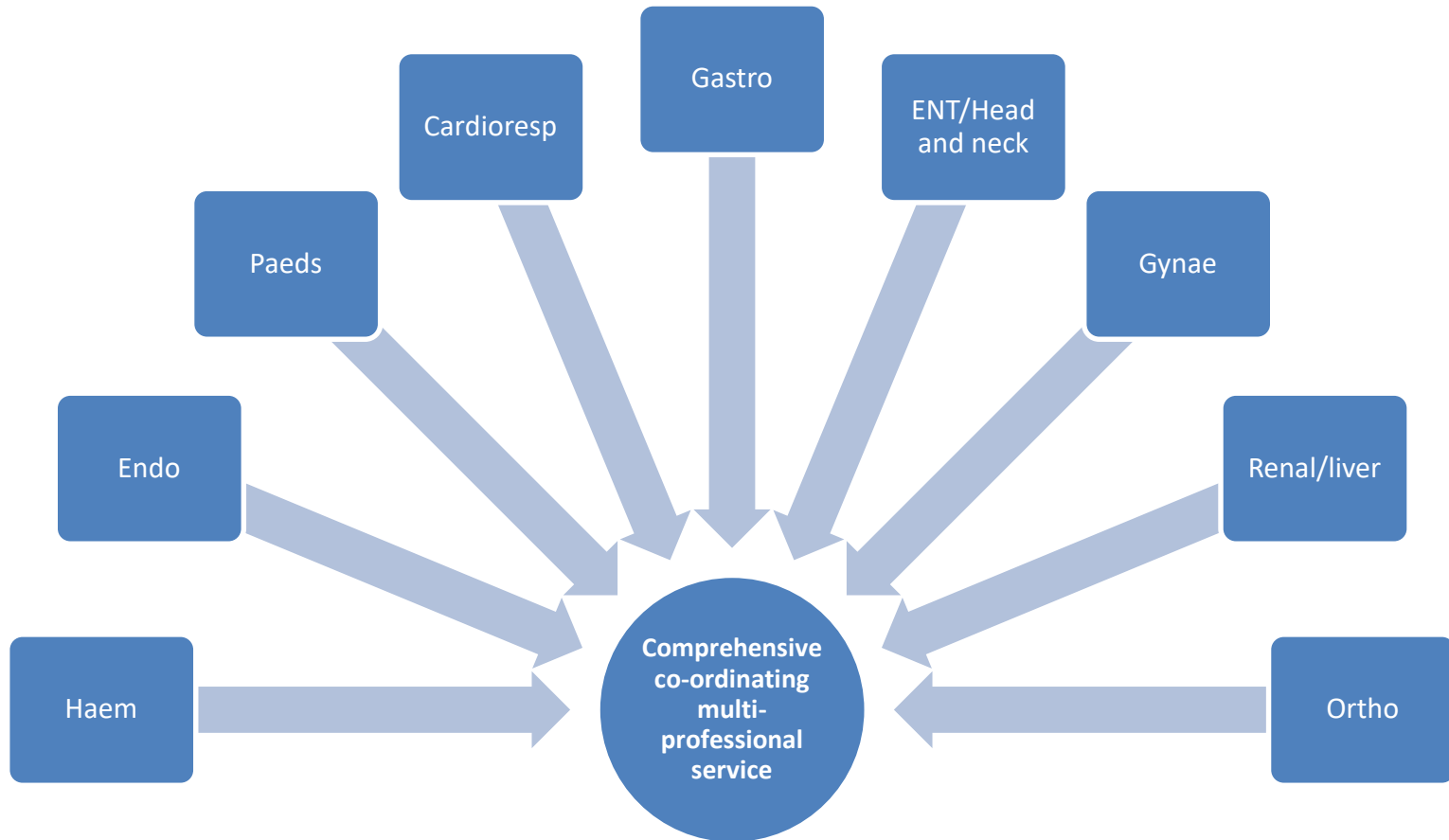
***EBMT screening
recommendations for
transplant recipients***

- ***Comprehensive***
- ***Systematic approach***
- ***Expert consensus***

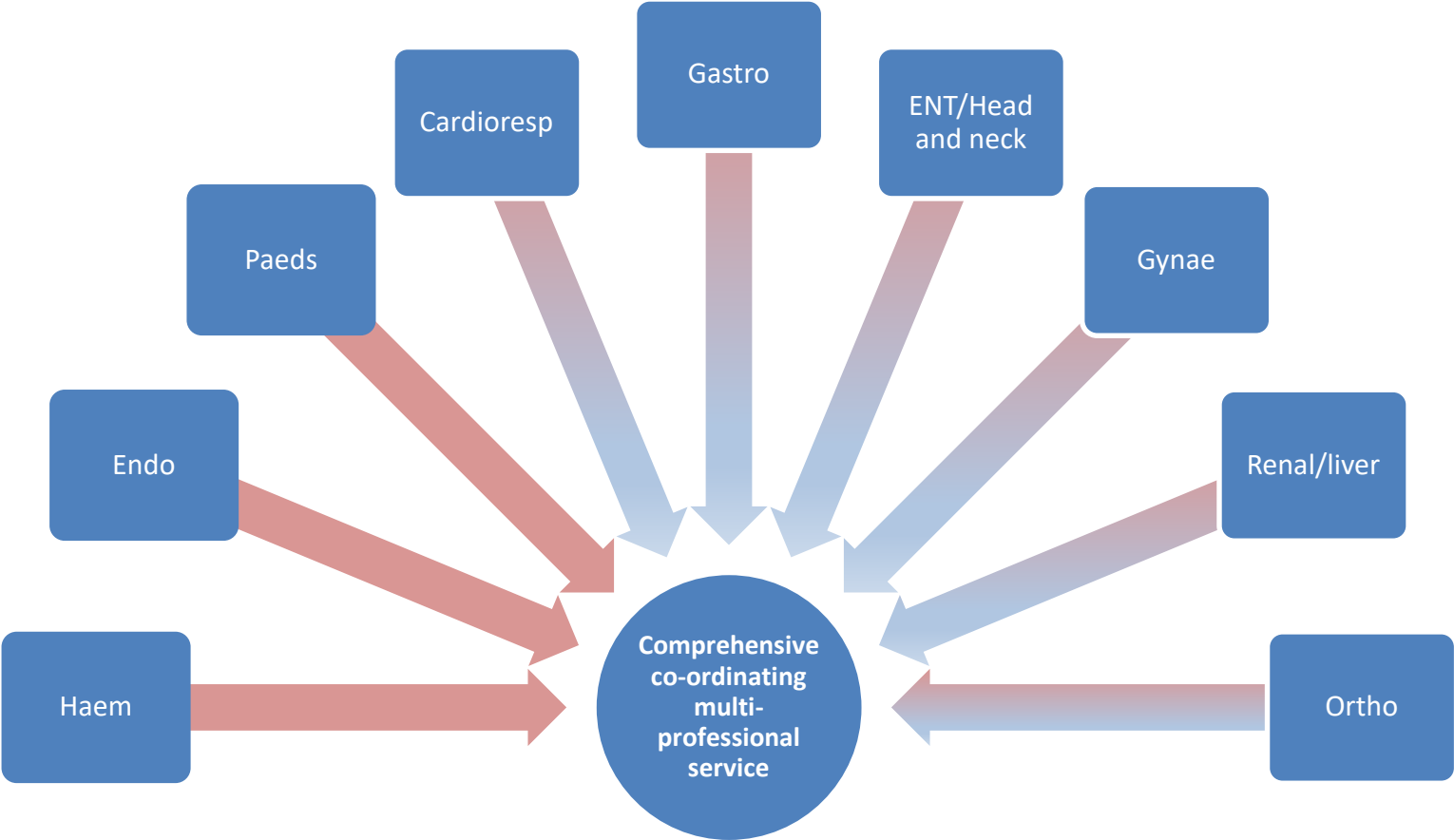
In relation to Fanconi anaemia in the UK.....

- HSCT has improved outcomes
- There will be more than 300 individuals living with FA in the UK, majority will have undergone transplantation
- Number of adults increasing with better care
- More and more adults with changing clinical needs transitioning into adult services
- HSCT late effects clinics may fall short of provision for adult FA patients needs
- Need for tailored long-term follow up by clinicians/professionals with experience of managing patients with rare inherited/cancer-associated syndromes

Long-term monitoring for patients with FA – what we are doing in Manchester...



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Long-term monitoring for patients with FA

Pre-BMT:

Normal blood count

3-6 monthly repeat

Annual BM including cytogenetics

Abnormal blood count

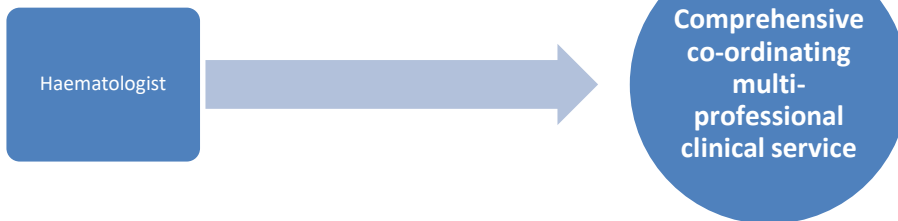
At least 3 monthly repeat

6-12 monthly BM including cytogenetics

Post-BMT:

6 monthly blood count

BM including cytogenetics if clinically indicated



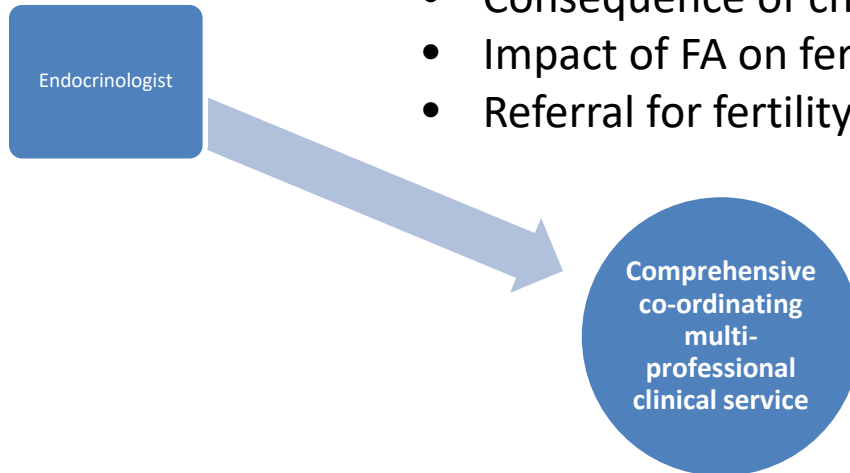
Long-term monitoring for patients with FA

Thyroid:

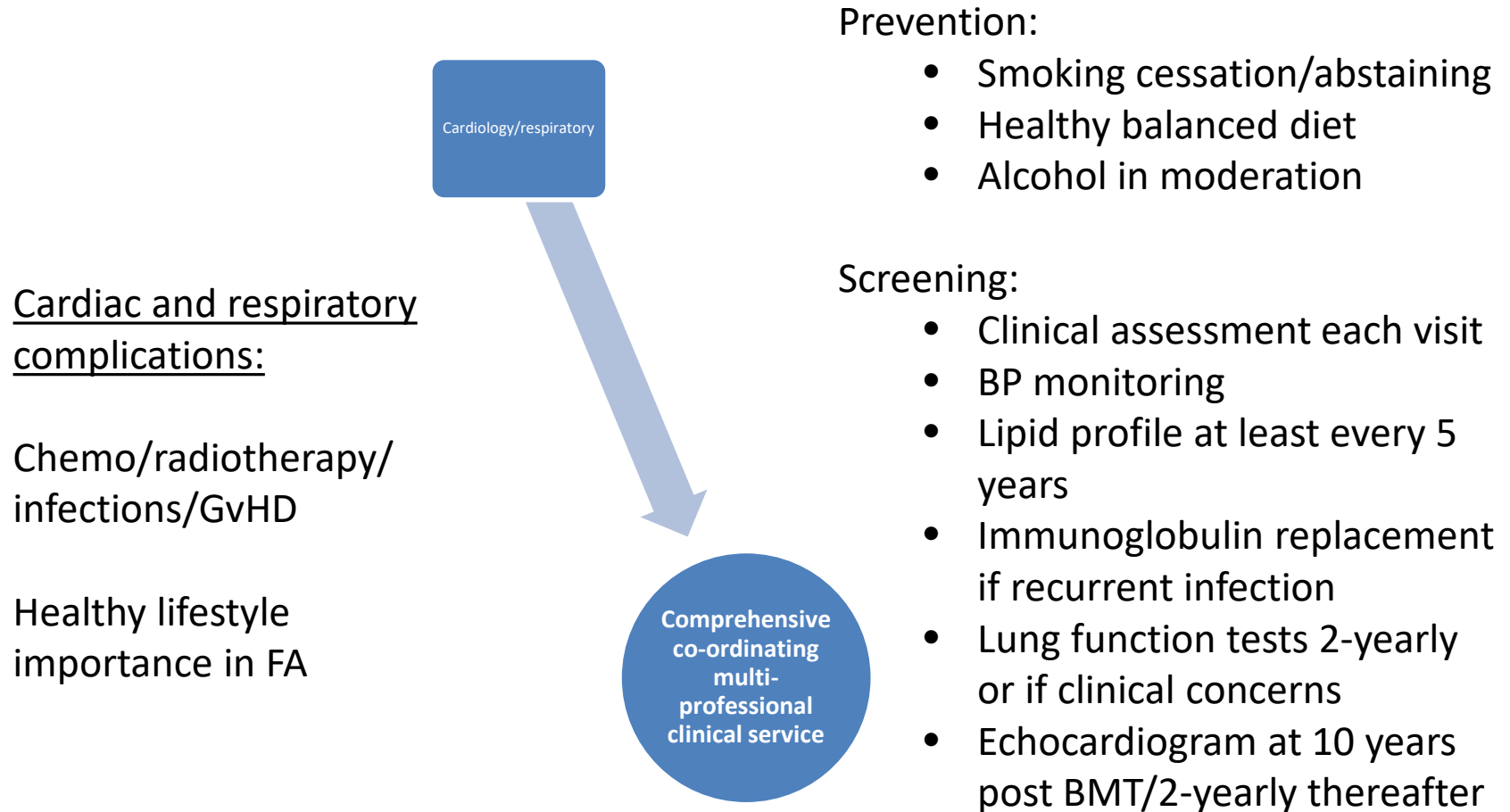
- Consequence of radiotherapy/chemotherapy/GvHD
- 6-12 monthly thyroid function

Sex hormones:

- Consequence of chemotherapy/radiotherapy
- Impact of FA on fertility
- Referral for fertility assessment and counselling



Long-term monitoring for patients with FA

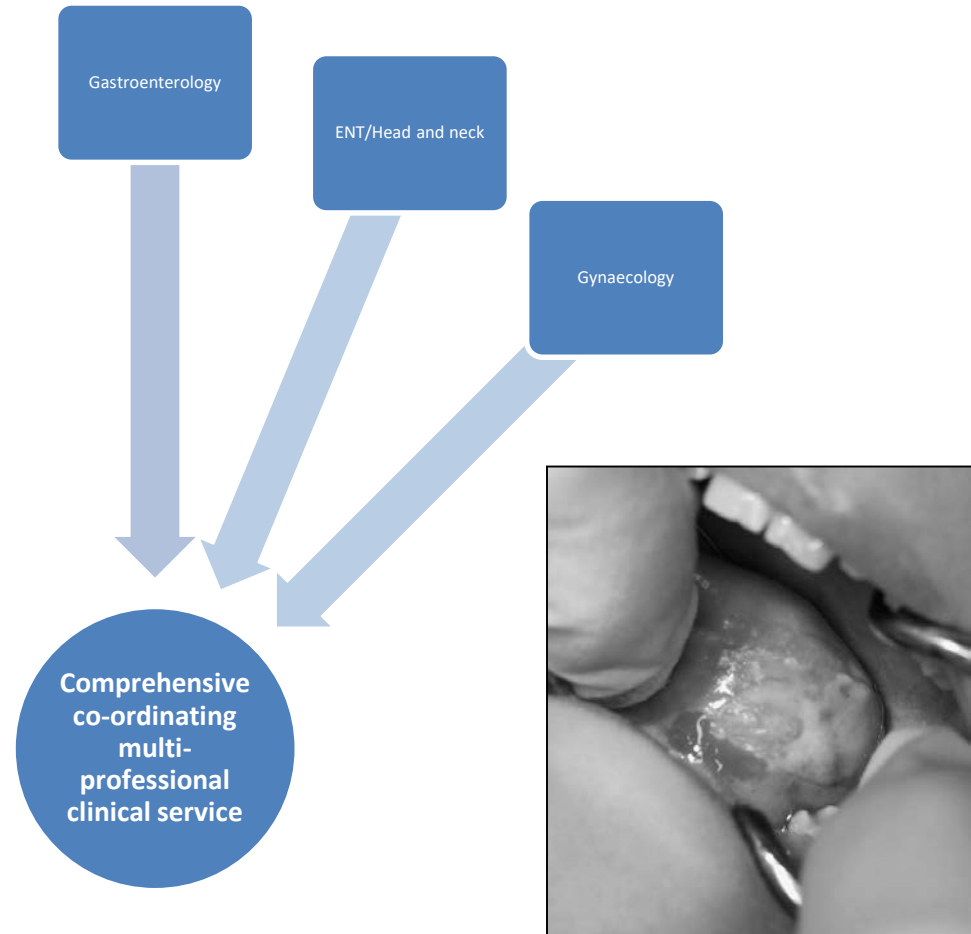


Long-term monitoring for patients with FA

Squamous cell malignancy:

Introduce screening early (1 year after BMT or age 15)

- Dentist - 6 monthly
- ENT - 1 year after BMT or age 15 years
- Gynaecology - 5 years after BMT or age 15 years
- Gastroenterology - annual upper GI scoping from 5 years after BMT or age 15 years
- Self examination (also breast for girls)
- HPV vaccination
- Avoid alcohol



Long-term monitoring for patients with FA

Kidney/liver complications:

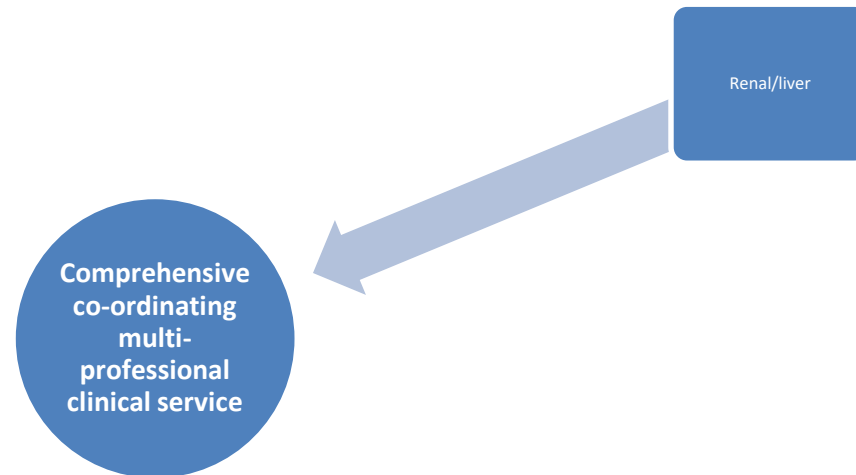
Risk factors include
previous treatments pre
and post BMT

Prevention:

- BP control
- Alcohol avoidance

Screening:

- Urine dip/BP monitoring
- 6 monthly blood tests
- Additional imaging if concerns



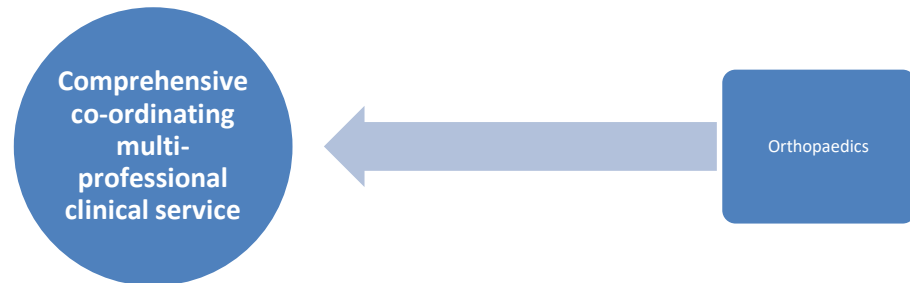
Long-term monitoring for patients with FA

Bones and joints:

Bone thinning post-transplant (medications/hormonal imbalance)

- Calcium and vitamin D supplementation
- Consider bone density screening annually

Orthopaedics for management of pre-existing / radial abnormalities if required



Additional considerations....

- Breast cancer screening?
 - U/S or MRI
- Visual and hearing assessments
 - 2-yearly
- Psychological evaluation/support....

Emotional wellbeing

Coping
Distress/enjoyment

Physical wellbeing

Disease symptoms
Treatment side effects

Quality of Life

Social wellbeing

Social activity/support
Relationship quality
Family wellbeing

Functional wellbeing

Activities of daily living
Role performance

Summary

- Outcomes following HSCT have improved dramatically over the last 20 years
 - Attenuation of the preparative regimens
 - Reduced short and long-term toxicity
- Increasing number of children with FA are now successfully managed during childhood and into adulthood
- Long-term follow-up is an essential component of the management of adult patients with FA
 - Detect complications related to the disease itself
 - Post-HSCT complications
- Multi-professional teams involving invested specialists are required for exhaustive/effective management