



**ISBMT**

Indian Society for Blood & Marrow Transplantation

# **BMT MASTER CLASS**

## **December 2025**

# **PRETRANSPLANT SCREENING FOR RECIPIENT & DONOR**

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Involves detailed assessment of recipient physiologic fitness to endure the stresses associated with , conditioning , engraftment and also ensuring fitness of donor.

- Assess eligibility and fitness of recipient.
- Identify infectious risks and comorbidities.
- Ensure HLA compatibility and donor safety.
- Plan conditioning regimen and supportive care



# Road map

## Basic clinical evaluation

Confirmation of diagnosis ( reports )and assessment of indication for HSCT

HLA typing reports – both recipients and potential donors – choosing the best one

Information about the available treatment options and expected outcome of each

Procedural details and expected complications

Current disease status evaluation (7-15 days)

Disease based planning of conditioning regimen<sup>3</sup>

Appointments for various -pretransplant investigations – review- completed within 30 days

Blood bank – apheresis scheduling , cryopreservation information , screening of blood product donors

Venous access

Consent/assent - patient/ donor/ parents / legal guardian

# FINANCIAL EVALUATION

1. Personal savings/ Insurance
2. Reimbursement- govt. employee
3. Govt. Health beneficiary- ESI/CGHS( Full)
4. CSR ( Thalassemia/ AA), NPRD
5. Crowd funding + Ayushman Bharat

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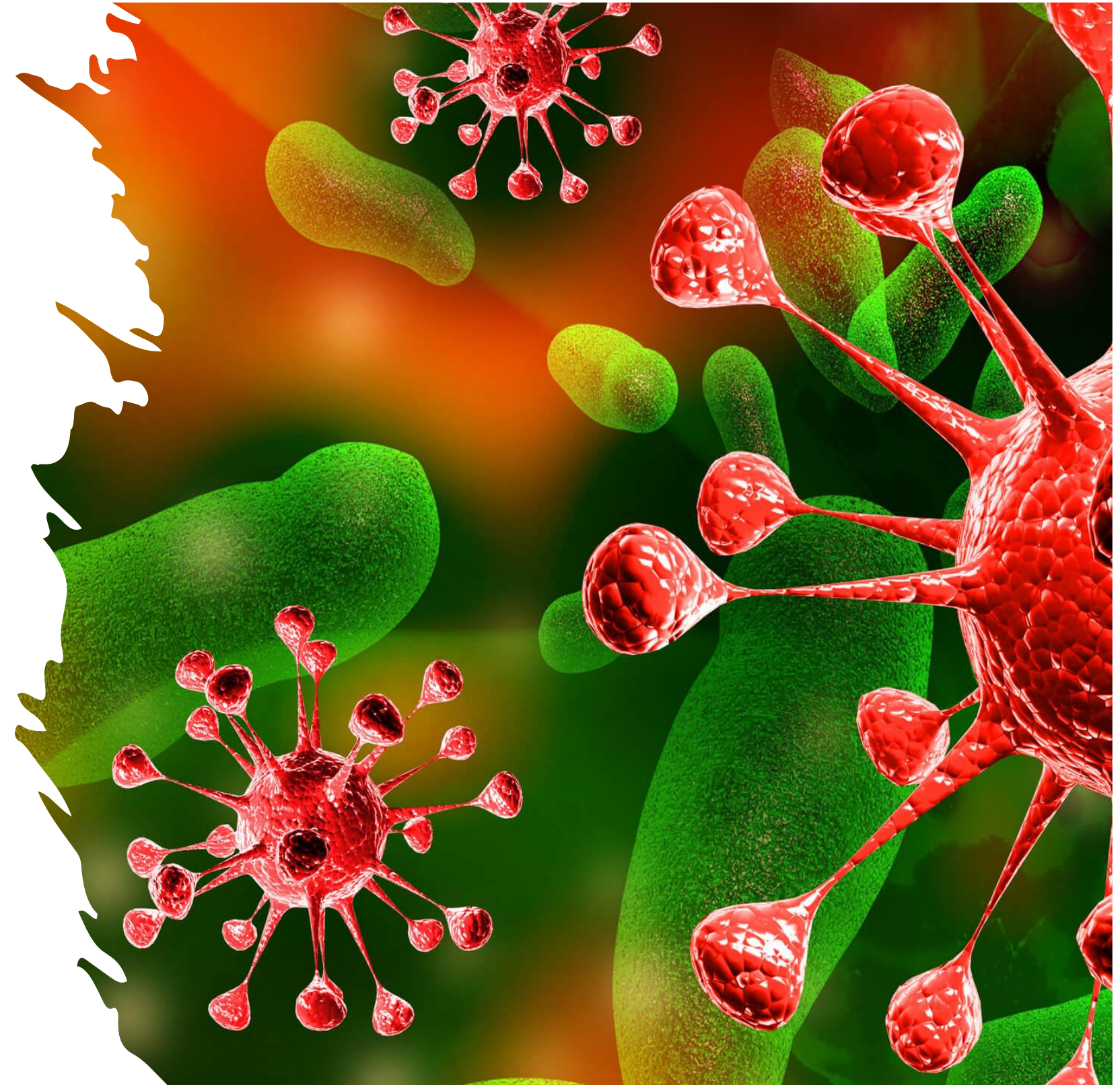
# EVALUATION

1. Infection Screening.
2. Non- Infection Screening

# INFECTION SCREENING- RECIPIENT & DONOR

Helps in planning peri & post HSCT prophylaxis

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# INFECTION SCREENING- RECIPIENT & DONOR

History : Prior infection , known colonization (R), hepatitis , blood transfusions, TB, Sexual activity, drug abuse, immunization .

Examination : Active focus , ENT, rashes, needle marks, lymphadenopathy, organomegaly, genital infections

Panel of infections disease markers	
CMV	HSV
EBV	VDRL
HAV	VJV
HBV	Seasonal /geographical relevant infections (CAI)
HIV	Stool –ova,cyst
HCV	TOXOPLASMA
HTLV	TB

**Donor – HIV +**

Acute HAV

Hepatitis B / C.

-Cannot donate

- treatment needed before donation

- can donate ( if serology positive—confirm/ refute)

if active viremia : cannot donate to unrelated recipient but

:can donate for urgent related recipient

should be on treatment.

**Recipient – HIV + but on HAART Eligible for HSCT**

Acute HAV – treatment needed before HSCT(VOD)

Hepatitis B. –if Seronegative – immunization<sup>8</sup> prior to HSCT

- if Seronegative – avoid from seropositive donor, but for urgent tx – immunization and HBIG

- if AntiHBs and antiHBcore antibodies present – prophylaxis

-if active HBV infection-treatment for 3-6 months ,or urgent start tt prior to conditioning

HCV

- liver biopsy –to look for CLD – modification of conditioning

-If HCV infection is present –treat for 3-6 months

# Donor vaccination

**Table 1**  
Current Clinical Guidelines for Vaccination in Stem Cell Donors before Allogeneic HSCT

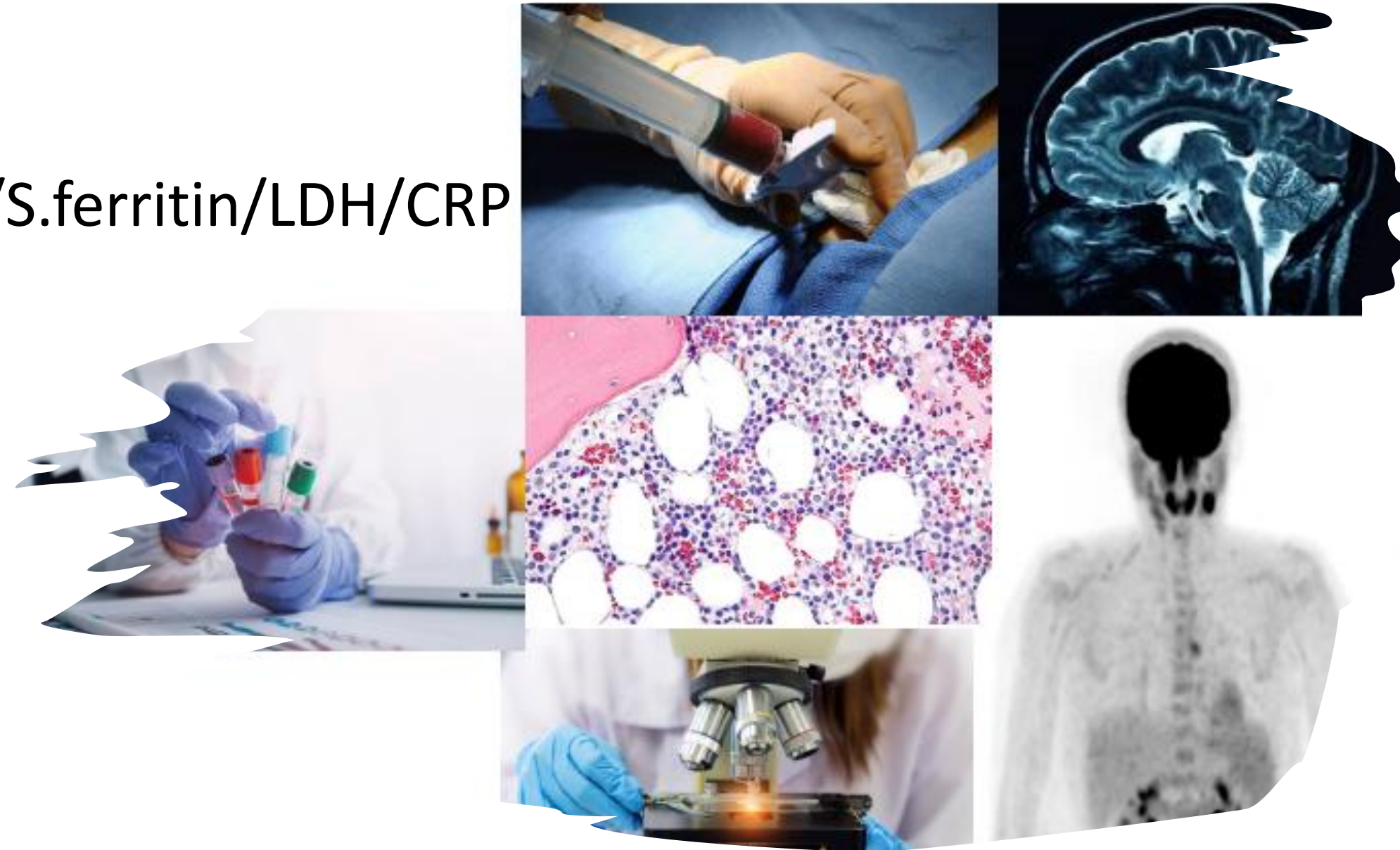
Society or Group	Guideline
Canadian, 2018	<p>If donor is related to recipient</p> <ul style="list-style-type: none"><li>• Donor should have received all routine age-appropriate vaccinations.</li><li>• Influenza vaccination should be given during the winter/influenza season.</li><li>• Inactivated vaccines should be given at least 2 weeks before stem cell collection.</li><li>• Live parenteral vaccines are contraindicated within 4 weeks of stem cell collection.</li></ul>
IDSA, 2013	<ul style="list-style-type: none"><li>• Donor should be current with routine vaccines.</li><li>• Avoid MMR, varicella, and zoster &lt; 4 weeks before HSCT.</li><li>• Vaccination of the donor for the benefit of the recipient is not recommended.</li></ul>
American Society for Blood and Marrow Transplantation, 2009 [3]	<p>Vaccination of the donors has been shown to improve the post-transplant immunity of HSCT recipients for tetanus toxoid, 7-valent PCV, and Hib-conjugate vaccines. However, no recommendations are made regarding donor vaccination, because of practical and ethical difficulties surrounding this issue.</p>

# NON INFECTION SCREENING- RECIPIENT

## General

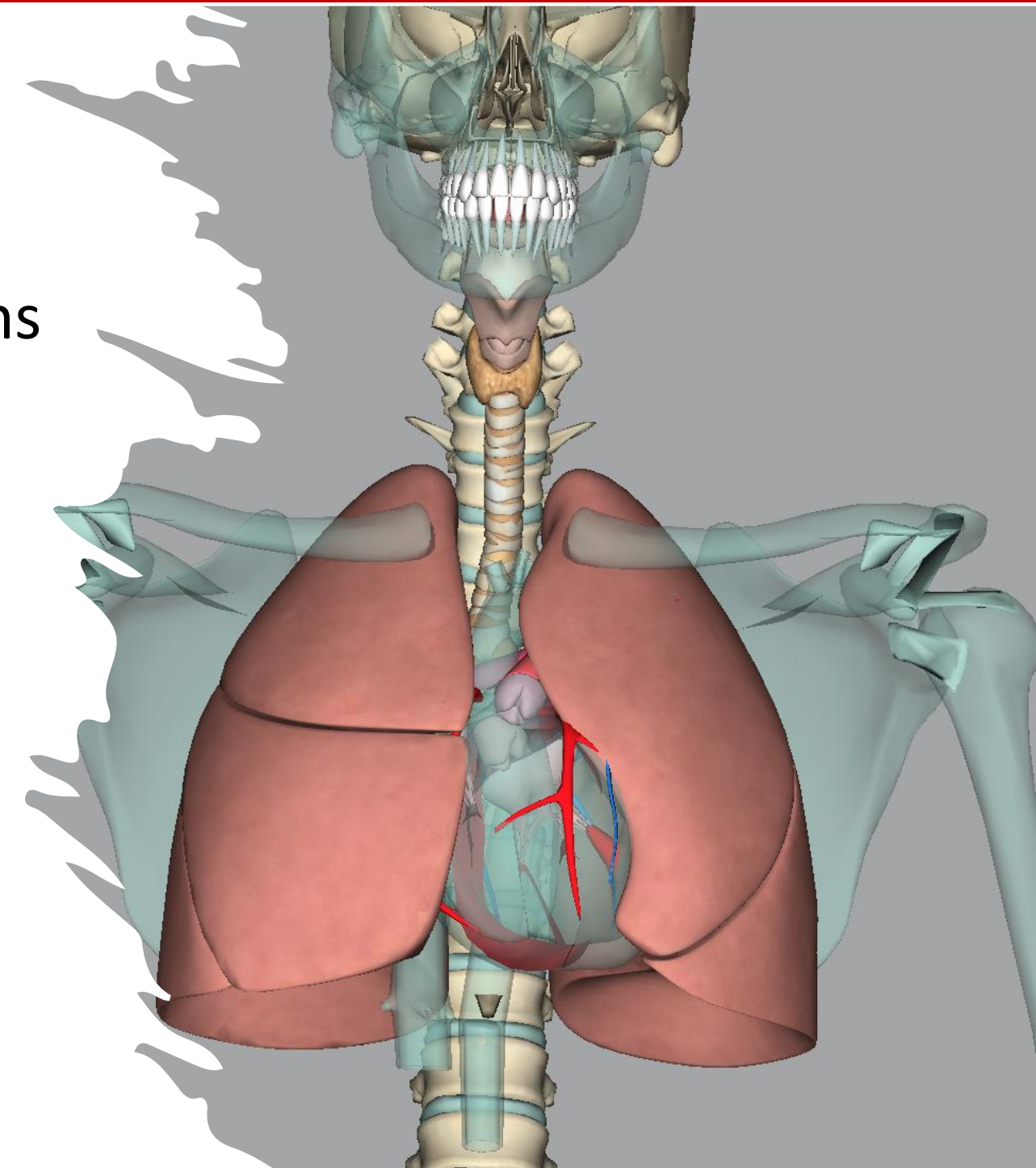
- complete blood count , differential, PBS
- Coagulogram
- Biochemistries- liver/kidney/ electrolytes/S.ferritin/LDH/CRP
- ABO, Isoagglutinin titres
- Anti –HLA antibodies
- **Disease status**
- Bone marrow studies
- Molecular/ cytogenetics
- Imaging –(CT scan/ MRI/ PET scan)
- CSF evaluation

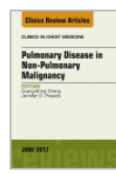
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# Respiratory System

- 50%- infectious & non infectious complications.
  - 15-25 % - Ac Respiratory Failure .\*
  - **Reasons-** Chemoradiotherapy , sequelae of suppurative lung infections during FN , COPD,
1. CXR /HRCT for any active infections –contraindication
  2. Pulmonary Function test
    - Identify those with severe pulmonary comorbidities( non eligible)
    - Establish a baseline for reference to postHSCT respiratory insufficiency
    - TBI- Interstitial pneumonitis & pulmonary toxicity.





# Pulmonary Function test

## Pulmonary Function and Pretransplant Evaluation of the Hematopoietic Cell Transplant Candidate

Guang-Shing Cheng MD <sup>a b</sup>

### FEV1

1. Abn. FEV1 - ↑ risk of Respiratory failure HR 2.7- 2.9 ( CI -1.7-4.2)
2. FEV<sub>1</sub> <70% predicted, was associated with a 1.7- to 2.2-fold increase in mortality.
3. Diffusing Lung Carbon Monoxide (DLCO)- same
4. **LFS <60% Mortality with NMA < MAC**
5. Small airway dysfunction- FEF 25-75%- more sensitive ( before FEV1 declines)

**DLCO should not be the sole criteria for determining transplant eligibility.**

IV Severely decreased 7-8

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*Definition of abbreviation:* LFS = lung function score.  
The pretransplant LFS represents the sum of the FEV<sub>1</sub> and DL<sub>CO</sub> score, where > 80% = 1, 70-80% = 2, 60-70% = 3, and < 60% = 4.

III	112 (5)	45 (11)	2.2 (1.8-2.6)	<.001
IV	34 (1)	14 (4)	3.1 (2.3-4.2)	<.001

Parimon T, et al. Pretransplant lung function, respiratory failure, and mortality after [stem cell transplantation](#). Am J Respir Crit Care Med 2005;172(3):388; with permission of the American Thoracic Society.

## Pre-Hematopoietic Stem Cell Transplant Lung Function and Pulmonary Complications in Children

Ashok Srinivasan<sup>1,2\*</sup>, Saumini Srinivasan<sup>2\*</sup>, Sudeep Sunthakar<sup>3</sup>, Anusha Sunkara<sup>4</sup>, Guolian Kang<sup>4</sup>, Dennis C. Stokes<sup>2</sup>, and Wing Leung<sup>1,2</sup>

<sup>1</sup>Department of Bone Marrow Transplantation and Cellular Therapy, St. Jude Children's Research Hospital, Memphis, Tennessee; <sup>2</sup>Division of Pulmonology, Department of Pediatrics, University of Tennessee Health Science Center, Memphis, Tennessee; <sup>3</sup>Medical University of South Carolina, Charleston, South Carolina; and <sup>4</sup>Department of Biostatistics, St. Jude Children's Research Hospital, Memphis, Tennessee

- Pulmonary complications were seen in 42 %
- PFT
  - Lower FEV1 (P = 0.0005), FVC (P = 0.0005), TLC (P , 0.0001), Residual volume less than 50%<sup>13</sup> (P = 0.01)
  - Restrictive lung disease (P = 0.01) predicted worse overall survival.

**FEF1 25-75% GLI 2012 LLN – significant predictor of pulmonary complications resulting in 3 fold increased risk of mortality.**

# Cardiovascular System

## Common issues

### Early

Arrhythmias 2-10% adult

– Atrial fibrillation & atrial Flutter -2.5%

--V-tachycardia 0.1%

Acute heart failure -0.4%-2.2%

Paediatric : Pericardial effusion of any size (ECHO)- 27%

Mod to large -4-12%

Pulmonary Hypertension highly fatal (<1%)

### Long Term

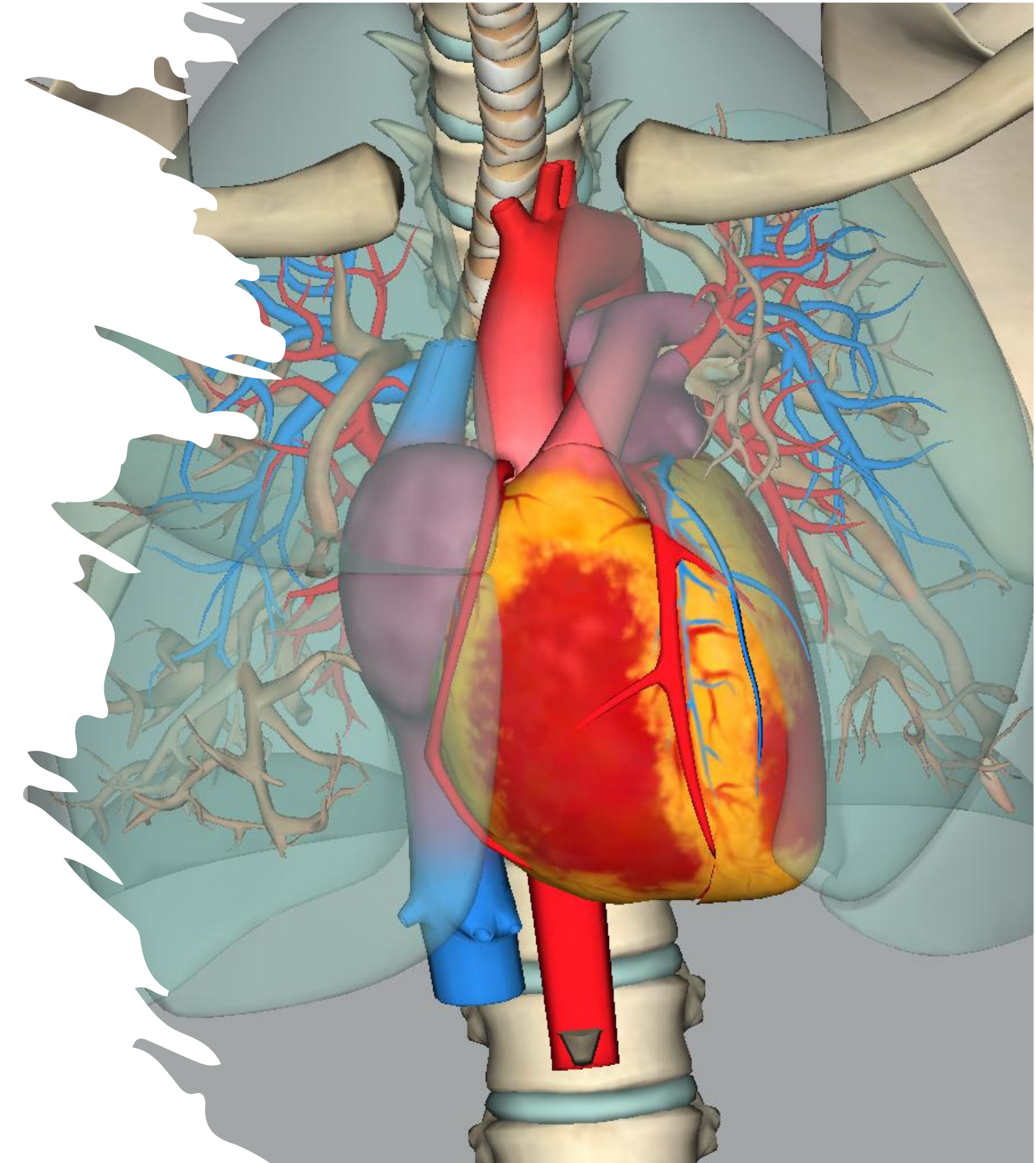
Adult Dyslipidaemia 40-80%

Insulin resistance -17-52%

@ 5yr Arrhythmia -7.1---10.6%

@ 10 yr Heart failure– 9.2% Auto & 8.2 %

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Circulation

**AHA SCIENTIFIC STATEMENT**

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Cardiovascular Management of Patients  
Undergoing Hematopoietic Stem Cell  
Transplantation: From Pretransplantation to  
Survivorship: A Scientific Statement From the  
American Heart Association

Salim S. Hayek, MD, Chair; Vlad G. Zaha, MD, PhD, FAHA, Vice Chair; Carmel Bogle, MD; Anita Deswal, MD, FAHA; Amelia Langston, MD; Seth Rotz, MD; Alexi Vasbinder, PhD, RN; Eric Yang, MD; Tochukwu Okwuosa, MD, FAHA; on behalf of the American Heart Association Cardio-Oncology Committee of the Council on Clinical Cardiology and Council on Genomic and Precision Medicine; and the Council on Cardiovascular and Stroke Nursing

# CARE- BMT Cardiovascular Registry in Bone Marrow Transplantation Score

Demographics		Cancer-Related		Comorbidities		Laboratory	
<b>Age (years)</b>		<b>Transplant Type</b>		<b>Coronary artery disease</b>		<b>Creatinine &gt;1 mg/dL</b>	
50–54	1	Allogeneic	2	Yes	1	Yes	1
55–64	2	<b>Anthracycline ≥250 mg/m<sup>2</sup></b>		<b>Heart failure</b>		<b>Triglycerides &gt;150 mg/dL</b>	
≥65	3	Yes	2	Yes	1	Yes	1
<b>Race</b>				<b>Peripheral artery disease</b>			
Black	1			Yes	1		
Total Score	Score	Risk Group	1-Year Incidence of CV Event	5-Year Incidence of CV Event			
0–16 points	0–1 points	Low-risk	1.7%	4.0%			
	2–4 points	Intermediate-risk	4.0%	10.3%			
	≥5 points	High-risk	11.3%	22.4%			

**Figure 4.** Calculating the CARE-BMT risk score for cardiovascular risk stratification.

# Steps

Initial risk stratification

SCORE

Excluding patients from HSCT for cardiovascular reasons should be limited to the occasional patient with severe, nontreatable disease, poor cardiopulmonary reserve, or a life expectancy of <1 year.

HISTORY & EXAMINATION

ASSESSMENT OF CV RESERVE

ECOG/ Karnofsky

Optimisation of CV Reserve

Fluid status and medication acc to dosing guidelines

# RISK SCORES

## Disease Risk Index( DRI)

Assessment of prognostic significance of disease status at HSCT

Categorizes- (2 yr OS)

- Low risk : 66%
- Intermediate: 51%
- High risk : 33%
- Very high risk: 26%

Only disease related not patient related parameters

## Hematopoietic stem cell transplantation-specific-Comorbidity Index (HCT-CI)

- Predicts 2 year non relapse mortality & OS
- Used-
  - Patient selection
  - Conditioning planning
  - Outcome prediction
- 17 components weighted 1,2,3
- Categorises- (2 yr OS)

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- |                        | MA  | RIC | NMA |
|------------------------|-----|-----|-----|
| • Low risk: 0          | 79% | 87% | 81% |
| • Intermediate: 1-2    | 66% | 66% | 67% |
| • High risk : 3-4.     | 45% | 47% | 54% |
| • Very high risk: ≥ 5. | 29% | 34% | 35% |

Disease	Stage	DRI Group	2-Year OS (%)	
Hodgkin lymphoma CR		Low	66	
CLL CR		Low		
Mantle cell lymphoma CR		Low		
Indolent NHL CR		Low		
AML favorable cytogenetics CR		Low		
Indolent NHL PR		Low		
CLL PR		Low		
CML chronic phase 1/2		Low		
CML advanced phase		Intermediate		51
Mantle cell lymphoma PR		Intermediate		
Myeloproliferative neoplasm	Any	Intermediate		
AML intermediate cytogenetics CR		Intermediate		
ALL CR1		Intermediate		
T-cell NHL CR		Intermediate		
Multiple myeloma CR/VGPR/PR		Intermediate		
Aggressive NHL CR		Intermediate		
Low-risk MDS adverse cytogenetics	Early	Intermediate		
T-cell NHL PR		Intermediate		
Low-risk MDS intermediate cytogenetics	Early	Intermediate	33	
Hodgkin lymphoma PR		Intermediate		
Low-risk MDS intermediate cytogenetics	Advanced <sup>†</sup>	Intermediate		
Indolent NHL	Advanced <sup>†</sup>	Intermediate		
CLL	Advanced	Intermediate		
High-risk MDS intermediate cytogenetics	Early	Intermediate		
Aggressive NHL PR		Intermediate		
T-cell NHL	Advanced <sup>†</sup>	High		
AML favorable cytogenetics	Advanced <sup>†</sup>	High		
Hodgkin lymphoma	Advanced <sup>†</sup>	High		
High-risk MDS intermediate cytogenetics	Advanced <sup>†</sup>	High		
High-risk MDS adverse cytogenetics	Early	High		
ALL CR2		High		
AML adverse cytogenetics CR		High		
Mantle cell lymphoma	Advanced <sup>†</sup>	High		
High-risk MDS adverse cytogenetics	Advanced <sup>†</sup>	High		
Burkitt's lymphoma CR		High		
Multiple myeloma	Advanced <sup>†</sup>	High		
ALL CR3		High		
Low-risk MDS adverse cytogenetics	Advanced <sup>†</sup>	High		
AML intermediate cytogenetics	Advanced	High	23	
CML blast phase		Very high		
ALL	Advanced <sup>†</sup>	Very high		
Aggressive NHL	Advanced <sup>†</sup>	Very high		
AML adverse cytogenetics	Advanced <sup>†</sup>	Very high		
Burkitt's lymphoma PR	Advanced <sup>†</sup>	Very high		

Comorbidity	Definitions of Comorbidities	HCT-CI Score
Age	Age ≥ 40 years	1
Arrhythmia	Atrial fibrillation or flutter, sick sinus syndrome, or ventricular arrhythmias	1
Cardiac	Coronary artery disease, congestive heart failure, myocardial infarction, or ejection fraction ≤ 50%	1
Inflammatory bowel disease	Crohn's disease or ulcerative colitis	1
Diabetes	Requiring treatment with insulin or oral hypoglycemics but not diet alone	1
Cerebrovascular disease	Transient ischemic attack or cerebrovascular accident	1
Psychiatric disturbance	Depression or anxiety requiring psychiatric consult or treatment	1
Hepatic, mild	Chronic hepatitis, bilirubin > ULN to 1.5 × ULN, or AST/ALT > ULN to 2.5 × ULN	1
Obesity	Patients with a body mass index > 35 kg/m <sup>2</sup>	1
Infection	Requiring continuation of antimicrobial treatment after day 0	1
Rheumatologic	SLE, rheumatoid arthritis, polymyositis, mixed connective tissue disorder, or polymyalgia rheumatica	2
Peptic ulcer	Requiring treatment	2
Moderate/severe renal	Serum creatinine > 2 mg/dL, on dialysis, or prior renal transplantation	2
Moderate pulmonary	DLCO and/or FEV <sub>1</sub> 66–80% or dyspnea on slight activity	2
Prior solid tumor	Treated at any time point in the patient's past history, excluding non-melanoma skin cancer	3
Heart valve disease	Except mitral valve prolapse	3
Severe pulmonary	DLCO and/or FEV <sub>1</sub> ≤ 65% or dyspnea at rest or requiring oxygen	3
Moderate/severe hepatic	Liver cirrhosis, bilirubin > 1.5 × ULN, or AST/ALT > 2.5 × ULN	3
HCT-CI/Age Composite Score	Regimen Intensity	2-Year OS (%)
0	Myeloablative	79
	Reduced intensity	87
	Non-myeloablative	81
1-2	Myeloablative	66
	Reduced intensity	66
	Non-myeloablative	67
3-4	Myeloablative	45
	Reduced intensity	47
	Non-myeloablative	54
≥ 5	Myeloablative	29
	Reduced intensity	34
	Non-myeloablative	35

Source: Adapted from Sorrow ML, Storb RF, Sandmaier BM, et al. *J Clin Oncol*. 2014;**32**(29):3249–3256.

# HCT- CI

Comorbidity	Assigned point
Arrhythmia	1
Cardiac	1
Inflammatory bowel disease	1
Diabetes	1
Cerebrovascular disease	1
Psychiatric disturbance	1
Hepatic, mild	1
Obesity	1
Infection	1
Rheumatological	2
Peptic ulcer	2
Moderate/severe renal	2
Moderate pulmonary	2
Prior solid tumor	3
Heart valve disease	3
Severe pulmonary	3
Moderate/severe hepatic	3

Original performance of HCT-CI score for nonrelapse mortality

**Risk of 2-y nonrelapse mortality, %\***

Low risk (score 0): 14  
 Intermediate risk (score 1–2): 21  
 High risk (score  $\geq 3$ ): 41  
 C-statistic: 0.69

Performance of HCT-CI score in CARE-BMT cohort for cardiovascular outcomes

**Risk of any cardiovascular event 1 y after HSCT, %\***

Low risk (score 0): 0.4  
 Intermediate risk (score 1–2): 6.2  
 High risk (score  $\geq 3$ ): 8.0  
 C-statistic: 0.64

**Risk of any cardiovascular event 5 y after HSCT, %\***

Low risk (score 0): 6.3  
 Intermediate risk (score 1–2): 14.2  
 High risk (score  $\geq 3$ ): 20.0  
 C-statistic: 0.62

5. The HCT-CI score and its predictive performance for CV events.

# Disease Risk Index (DRI) Assignment Tool

CIBMTR > Resources > Research Tools & Calculators > Disease Risk Index (DRI) Assignment Tool

## Filter by Disease

clear all

### Disease

- select -

### Stage

clear

- 1st complete remission (1)
- 1st or 2nd chronic phase (1)
- 2nd Complete Remission (1)
- 3rd Complete Remission (1)
- Advanced Stage (16)
- Any Complete Remission (10)
- Any stage (1)
- Blast phase (1)
- Complete remission/very good partial remission/partial remission (1)
- Early Stage (4)
- Partial remission (6)
- Partial remission/Advanced stage (1)

## DRI assignments

1 Results Listed

### CML - Chronic myelogenous leukemia

Disease Stage: **Blast phase**  
DRI Assignment: **Very High**  
2-year Overall Survival\*: 23% (20-27)  
\*95% confidence intervals

### ✓ - select -

- ALL - Acute lymphoblastic leukemia
- AML - Acute myelogenous leukemia
- CLL - Chronic lymphocytic leukemia
- CML - Chronic myelogenous leukemia
- HL - Hodgkin lymphoma
- MDS - High-risk myelodysplastic syndrome
- MDS - Low-risk myelodysplastic syndrome
- Myeloproliferative neoplasm
- NHL - Aggressive non-Hodgkins lymphoma
- NHL - Burkitt lymphoma
- NHL - Indolent non-Hodgkins lymphoma
- NHL - Mantle cell lymphoma
- NHL - T-cell non-Hodgkin's lymphoma
- PCD - Multiple myeloma**

# HCT-CI online calculator

## HCT Comorbidity Index Calculator

This calculator contains 17 different categories of comorbidities represented by 16 categories in this calculator. Two comorbidity categories (pulmonary and hepatic) have two different

### Instructions

- Each section has additional instructions which you can display by clicking on the section's [?](#) icon.
- Please check a box or enter a value as it applies to the patient's condition.
- It's important to complete the entire form in order that the index be most accurate.
- The following questions are required in order to obtain a score:
  - 0. Transplantation date
  - 2c. Ejection fraction/Shortening fraction values
  - 7a-c. Two sets each of Bilirubin, AST, and ALT values
  - 12a. Two serum creatinine values
  - 13a-b. DLco and FEV1 values
- Click on one of the buttons at the bottom of the page to calculate the score or save your entries for later.

### 0. Hematopoietic Cell Transplantation

a. Transplantation date:

### 1. Arrhythmia (score = 1) [?](#)

- a. Atrial fibrillation  Yes
- b. Atrial flutter  Yes
- c. Supraventricular tachycardia  Yes
- d. Sick sinus syndrome  Yes
- e. Heart block  Yes
- f. Ventricular arrhythmia  Yes
- g. Other, specify:   Yes

### 2. Cardiovascular Comorbidity (score = 1) [?](#)

- a. Coronary artery disease  Yes
- b. Congestive heart failure  Yes
- c. Ejection fraction / shortening fraction  
Please complete one of the following options:
- i. Ejection fraction value  %
- ii. Exact ejection fraction unknown, but... ( EF <= 50  or EF > 50  )
- iii. Shortening fraction (for pediatrics)  %
- iv. Exact shortening fraction unknown, ( SF <= 26  or SF > 26  )
- v. Ejection or Shortening fraction ND/NE

### 3. Inflammatory Bowel Disease (score = 1) [?](#)

- a. Crohn's disease  Yes
- b. Ulcerative colitis  Yes

### 4. Diabetes (score = 1) [?](#)

- a. Diabetes  Yes
- b. Steroid-induced hyperglycemia  Yes

### 5. Cerebro-Vascular Disease (score = 1) [?](#)

- a. Transient Ischemic attack  Yes
- b. Subarachnoid hemorrhage  Yes
- c. Cerebral thrombosis  Yes
- d. Cerebral embolism  Yes
- e. Cerebral hemorrhage  Yes

### 6. Psychiatric Disturbance (score = 1) [?](#)

- a. Depression  Yes
- b. Anxiety  Yes
- c. Other, specify:   Yes

### 7. Hepatic Comorbidity (score = 1-3) [?](#)

- a. Total bilirubin upper limit of normal value:
- i. Bilirubin patient value #1:  Bilirubin date #1:  Days to HCT:
- ii. Bilirubin patient value #2:  Bilirubin date #2:  Days to HCT:
- iii. Bilirubin tests were done only once between days -24 and -10 before HCT.
- b. Aspartate transaminase (AST) upper limit of normal value:
- i. AST patient value #1:  AST date #1:  Days to HCT:
- ii. AST patient value #2:  AST date #2:  Days to HCT:
- iii. AST tests were done only once between days -24 and -10 before HCT.
- c. Alanine transaminase (ALT) upper limit of normal value:
- i. ALT patient value #1:  ALT date #1:  Days to HCT:
- ii. ALT patient value #2:  ALT date #2:  Days to HCT:
- iii. ALT tests were done only once between days -24 and -10 before HCT.
- d. Hepatitis B  Yes
- e. Hepatitis C  Yes
- f. Liver cirrhosis  Yes

### 8. Obesity (score = 1) [?](#)

- a. Patient height (cm):  Patient weight (kg):  Calculated BMI:
- b. BMI-for-age percentile, for patients <= 18 yr old:  %

### 9. Infection (score = 1) [?](#)

- a. Documented infection  Yes
- b. Fever of unknown origin  Yes
- c. Pulmonary nodules suspicious of fungal pneumonia  Yes
- d. PPD positive requiring TB prophylaxis  Yes
- e. Other, specify:   Yes

### 10. Rheumatologic Comorbidity (score = 2) [?](#)

- a. Systemic lupus erythematosus  Yes
- b. Rheumatoid arthritis  Yes
- c. Polymyositis  Yes
- d. Mixed connective tissue disease  Yes
- e. Polymyalgia rheumatica  Yes
- f. Other, specify:   Yes

### 11. Peptic Ulcer (score = 2) [?](#)

- a. Gastric ulcer  Yes
- b. Duodenal ulcer  Yes

### 12. Renal Comorbidity (score = 2) [?](#)

- a. Serum Creatinine  
Please select units and enter two values
- i. Creatinine units:  mg/dL  umol/L
- ii. Creatinine patient value #1:  Date #1:  Days to HCT:
- iii. Creatinine patient value #2:  Date #2:  Days to HCT:
- iv. Creatinine tests were done only once between days -24 and -10 before HCT.
- b. Patient on dialysis  Yes
- c. Prior renal transplantation  Yes

### 13. Pulmonary Comorbidity (score = 2-3) [?](#)

- a. Diffusion capacity of carbon monoxide (DLco)  
Please either items i and ii or select ND/NE
- i. Percentage of measured uncorrected DLco divided by predicted DLco:  %
- ii. Concurrent hemoglobin value:
- iii. Calculated pct of corrected DLco (Dinakara equation):
- iv. DLco ND/NE because of young age

### 13. Pulmonary Comorbidity (score = 2-3) [?](#)

- a. Diffusion capacity of carbon monoxide (DLco)  
Please either items i and ii or select ND/NE
- i. Percentage of measured uncorrected DLco divided by predicted DLco:  %
- ii. Concurrent hemoglobin value:
- iii. Calculated pct of corrected DLco (Dinakara equation):
- iv. DLco ND/NE because of young age
- b. Forced expiratory volume in 1 second (FEV1)  
Please either enter a value or select ND/NE
- i. Percentage of measured forced expiratory volume in 1 second (FEV1) divided by predicted FEV1:  %
- ii. FEV1 ND/NE because of young age
- c. Shortness of breath on slight activity  Yes
- d. Shortness of breath at rest  Yes
- e. Oxygen supplementation  Yes

### 14. Prior Solid Tumor (score 3) [?](#)

- a. Prior solid tumor, type:   Yes

### 15. Heart Valve Disease (score 3) [?](#)

- a. Valve stenosis, type of valve:   Yes
- b. Valve insufficiency, type of valve:   Yes
- c. Prosthetic valve, type of valve:   Yes
- d. Symptomatic mitral valve prolapse  Yes

### 16. Age (score = 1) [?](#)

- a. Age 40 or older  Yes

Calculate HCT-CI Score

Calculate HCT-CI/Age Score

Save Entries for Later Scoring [?](#)

# DONOR EVALUATION-NON INFECTION

## History & Examination

- PBSC: blood donations, diseases like-autoimmune, thrombosis, malignancies .
- Venous access, splenomegaly
- BM donors :surgery , allergy to drugs, current medications , pain neck,back, leg .
- Airway, spine

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## NON INFECTION SCREENING- DONOR

- General -complete blood count with white cell differential, PBS
  - Bio- chemistry- with liver and renal function and electrolytes
  - Urine analysis- pregnancy
  - ABO and Rh typing
  - ECG
  - Imaging : CXR
- 24
- Hemoglobin electrophoresis for screening for sickle cell trait or thalassemia, if donor is suspected to be a carrier.
  - Genetic testing – if recipient is having genetic disease (other than haemoglobinopathy) as an indication

## PSYCHOLOGICAL EVALUATION- BOTH RECIPIENT & DONOR

- The complexity of the procedure can become overwhelming as the transplantation progresses, can have profound impact on the patient/ family.
- Requires full compliance to the rituals of BMT/ care coordination between patient, caregivers and staff is of utmost importance .
- Evaluation by psychiatrist and trained psychologist to identify and manage the psychological issues at the pretransplant workup can help in envisaging a better caregiving plan .

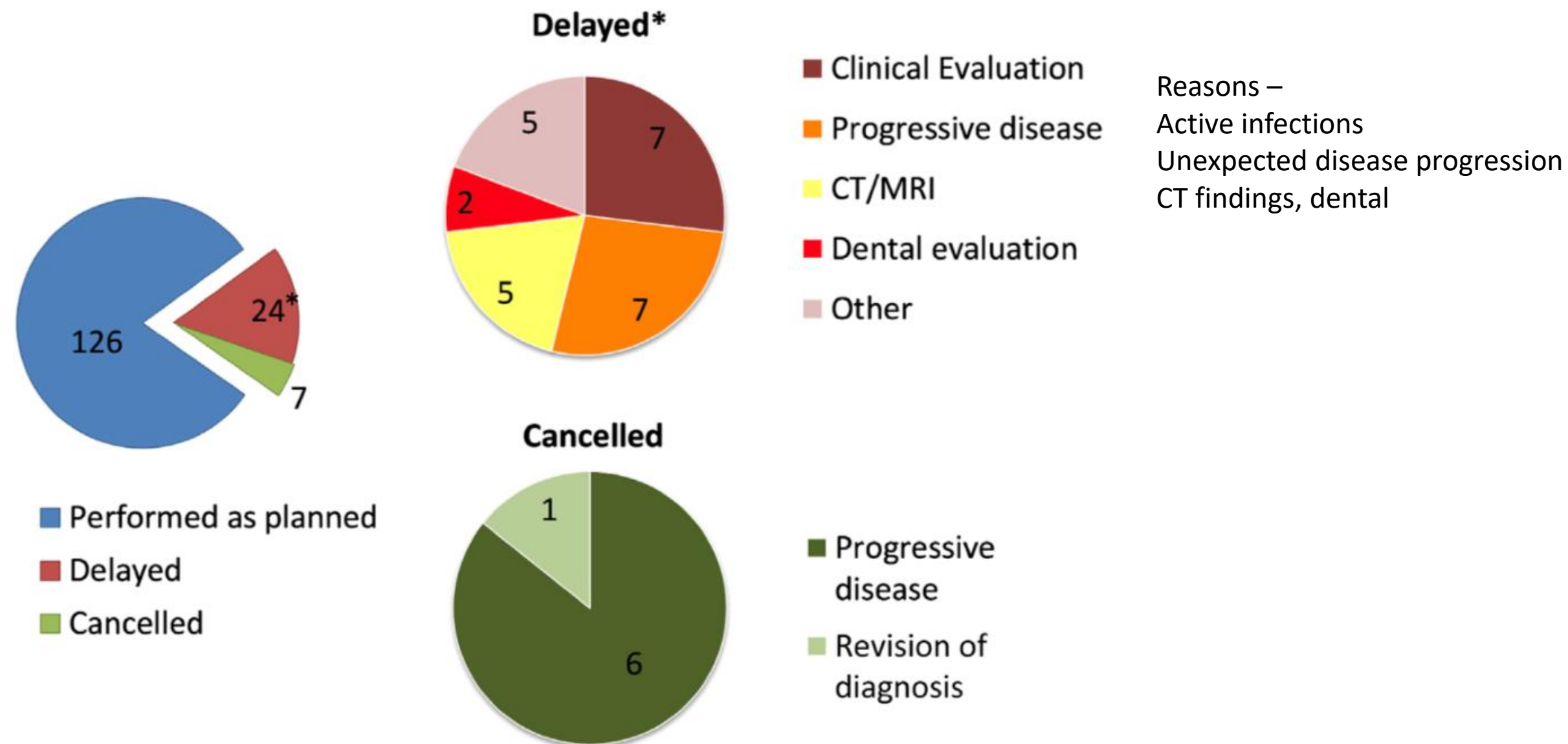
# Evaluation of the Pretransplantation Workup before Allogeneic Transplantation



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# Conclusions

1. HCT is a life-saving but potentially high-risk procedure.
2. To determine the benefit versus risk of this procedure for individual patients the recipient –donor pairs need to be meticulously evaluated before transplantation
3. Empowers physician , patient and family in having a share in medical decision making.

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# Future Directions

- Assessment of benefits of pretransplant Donor as well as recipients Vaccination
- Development of comprehensive risk score paediatric population
- Dynamic modifications in Risk assessment due to expanding donors pool, diseases, investigative tools

# Q1

- Which of the following condition in a male donor for a male recipient will not make him ineligible to donate stem cells
- 1) HIV positivity
- 2) sickle cell disease
- 3) married status
- 4) solid malignancy treated 3 years ago

## Q2

You will not delay transplant if the recipient has all except one of the following –

- 1) CMV positive
- 2) DRI –high risk category
- 3) DLCO 50%
- 4) Ejection fraction 40%

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**Thank You**