The EBMT Registry Database

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Relational database
The concept

parent table – one level

shared field (key index)

children tables
one level below

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Level definition

• Series of tables which do not depend on each other’s existence or content

• All depend on the existence and content of the same parent table

• They all share at least one field (index) with the parent table and, therefore, among each other.
Data storage: example

### Flat style

<table>
<thead>
<tr>
<th>PatId</th>
<th>WBC*</th>
<th>Diag</th>
<th>WBC Treat</th>
<th>WBC Mob</th>
<th>WBC Tran</th>
<th>WBC FUp</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>...</td>
<td>null</td>
<td>null</td>
<td>...</td>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>2</td>
<td>...</td>
<td>...</td>
<td>null</td>
<td>...</td>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>3</td>
<td>...</td>
<td>null</td>
<td>...</td>
<td>...</td>
<td>...</td>
<td>null</td>
</tr>
</tbody>
</table>

### EBMT database

<table>
<thead>
<tr>
<th>PatId</th>
<th>Date</th>
<th>Type</th>
<th>WBC</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>02/02/1990</td>
<td>Diag</td>
<td>...</td>
</tr>
<tr>
<td>1</td>
<td>04/04/1991</td>
<td>Tran</td>
<td>...</td>
</tr>
<tr>
<td>1</td>
<td>10/10/1991</td>
<td>Fup</td>
<td>...</td>
</tr>
<tr>
<td>2</td>
<td>01/01/1980</td>
<td>Diag</td>
<td>...</td>
</tr>
<tr>
<td>2</td>
<td>03/03/1980</td>
<td>1st line</td>
<td>...</td>
</tr>
<tr>
<td>2</td>
<td>07/07/1987</td>
<td>Tran</td>
<td>...</td>
</tr>
<tr>
<td>2</td>
<td>12/12/1987</td>
<td>Fup</td>
<td>...</td>
</tr>
<tr>
<td>3</td>
<td>02/02/1992</td>
<td>Diag</td>
<td>...</td>
</tr>
<tr>
<td>3</td>
<td>04/04/1993</td>
<td>Mob</td>
<td>...</td>
</tr>
<tr>
<td>3</td>
<td>05/05/1993</td>
<td>Tran</td>
<td>...</td>
</tr>
</tbody>
</table>
The EBMT database

Level 1

Centre
One entry per membership
[CIC]

Membership
As many entries as person members
[CIC] [PI] Unit Address City ...

Patient
As many entries as patients
[CIC] [PatId] Date of birth ...

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EBMT database
Level 2

Patient information
- date of birth
- initials
- date of death

Administrative fields

Outcome summary
- dates of graft
- status
- date last seen

level 3

Patient
As many entries as patients
[CIC] [PatId] Date of birth …

Diagnosis
As many entries as new diagnosis
[CIC] [PatId] [DoDiag] Diagnosis …
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Level 3

name of study

Study
As many entries as studies
[CIC] [PatId] [Number] Study name…
Diagnosis

As many entries as new diagnosis
[CIC]  [PatID]  [DoDiag]  Diagnosis  …

date of diagnosis
disease classification: FAB, REAL, etc
stage
secondary origin
EBMT database
Level 3

Treatment
As many entries as new treatments
[CIC] [PatId] [DoTrt] SC MoAB Chemo …

level 4

Drugs (Chemo)
As many entries as drugs
[CIC] [PatId] [DoTrt] [Regimen] Dose Days …

allo or auto stem cell source reason response modalities

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EBMT database
Level 4

**Drugs (Chemo)**
As many entries as drugs
[CIC] [PatId] [DoTrt] [Drug] Dose Days …

**Treatment**
As many entries as new treatments
[CIC] [PatId] [DoTrt] SC MoAB Chemo …

name of drug / protocol
dose
units
route of administration
date start that particular drug
date end that particular drug
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Level 4

Treatment
As many entries as new treatments
[CIC] [PatId] [DoTrt] SC MoAB Chemo ...

Stem cell counts
As many entries as cells measured
[CIC] [PatId] [DoTrt] [Source/Timing] Type ...

cell type
timing
number of cells
EBMT database
Level 4

Treatment
As many entries as new treatments
[CIC] [PatId] [DoTrt] SC MoAB Chemo …

Donor
As many entries as donors per treatment
[CIC] [PatId] [DoTrt] [DonId] Sex Match …

donor age
donor sex
donor registry
HLA match
cell infusion
donor HLA
cell manipulaton
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**Level 5**

**Donor**
As many entries as donors per treatment
[CIC] [PatId] [DoTrt] [DonId] Sex Match …

**Donor Assessment**
As many entries as donor follow up
[CIC] [PatId] [DoTrt] [DonId] [DoDFUp] History…

history medication
Donor Assessment
As many entries as donor follow up
[CIC] [PatId] [DoTrt] [DonId] [DoDFUp] History…

Donor Procedure Complications
As many entries as donor complications
[CIC] [PatId] [DoTrt] [DonId] [DoDFUp] [Complication] Date…
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EBMT database
Level 3

Assessment(1)
As many entries as new Assessment(1)
[CIC] [PatId] [DoAssess] Hg WBC …

Cytogenetics
As many entries as abnormalities studied
[CIC] [PatId] [DoAssess] [Abnormality] Presence …

date of assessment
haematological values
biochemical values
disease involvement
immunophenotyping assessed
cytogenetics done
incidence of infections
incidence of complications
GvHD
patient HLA
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**EBMT database**

**Level 4**

**Assessment(1)**
As many entries as new assessments

[CIC] [PatId] [DoAssess] Hg WBC …

**Treat compl**
As many entries as treatment complications studied

[CIC] [PatId] [DoAssess] [TComplic] Presence …
# EBMT database

## Level 4

### Cytogenetics

As many entries as abnormalities studied

- [CIC] [PatId] [DoAssess] [Abnormality] Presence ...

### Assessment(1)

As many entries as new assessments

- [CIC] [PatId] [DoAssess] Hg WBC ...

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Level 4

Assessment(1)
As many entries as new assessments
[CIC] [PatId] [DoAssess] Hg WBC …

Infections
As many entries as infections studied
[CIC] [PatId] [DoAssess] [Infection] Presence …
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Level 4

Assessment(1)
As many entries as new assessments
[CIC] [PatId] [DoAssess] Hg WBC ...

Involvement
As many entries as phenotypes studied
[CIC] [PatId] [DoAssess] [Site] Presence ...

site
primary metastatic
Assessment(1)
As many entries as new assessments
[CIC]  [PatId]  [DoAssess]  Hg  WBC  …

Molecular
As many entries as molecular markers studied
[CIC]  [PatId]  [DoAssess]  [Marker]  Presence  …
**Assessment(1)**
As many entries as new assessments

[CIC] [PatId] [DoAssess] Hg WBC ...

**Chimaerism**
As many entries as molecular markers studied

[CIC] [PatId] [DoAssess] [DoTest] Cell type...
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Assessment(1)
As many entries as new assessments
[CIC] [PatId] [DoAssess] Hg WBC …

Dis compl
As many entries as disease complications studied
[CIC] [PatId] [DoAssess] [DComplic] Presence …
EBMT database
Level 4

Assessment(1)
As many entries as new assessments
[CIC] [PatId] [DoAssess] Hg WBC ...

Circulating AB
As many entries as molecular markers studied
[CIC] [PatId] [DoAssess] [Antibody] Presence ...

antibody level
titer

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Assessment (1)
As many entries as new assessments
[CIC]  [PatId]  [DoAssess]  Hg  WBC  …

Questionnaire
As many entries as infections studied
[CIC]  [PatId]  [DoAssess]  [Question]  Score  …