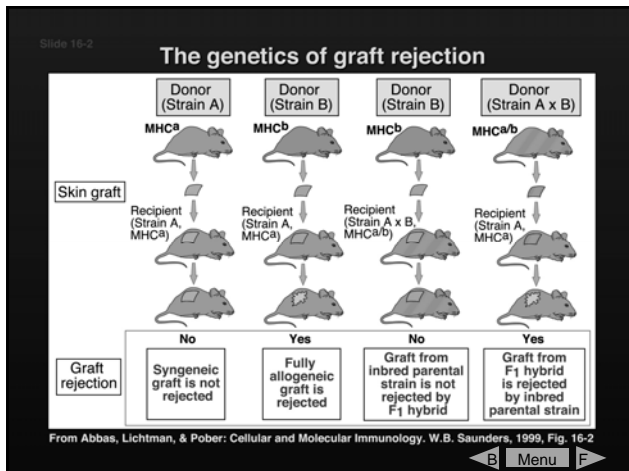
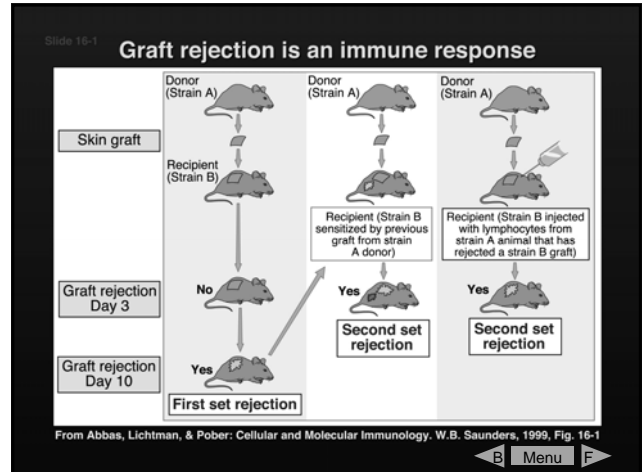


# Transplantation

- Rejection of foreign tissue grafts is due to immune responses to alloantigens on the graft
  - Blood group antigens
  - Polymorphic MHC antigens
  - Minor histocompatibility antigens

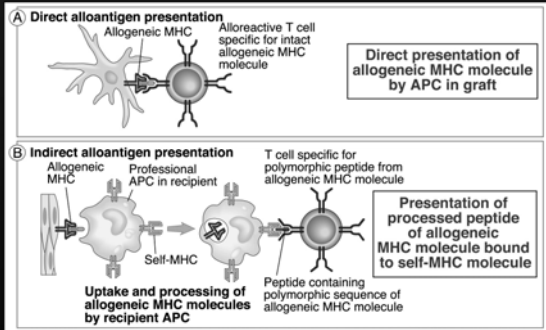


# Alloantigen Presentation

- Direct recognition
  - MHC-peptide complexes on Donor APC are recognized directly by recipient T cells without processing by recipient APC
- Indirect recognition
  - Foreign MHC and other alloantigens are processed by recipient APC and presented to recipient T cells

Slide 16-3

### Direct and indirect presentation of alloantigens

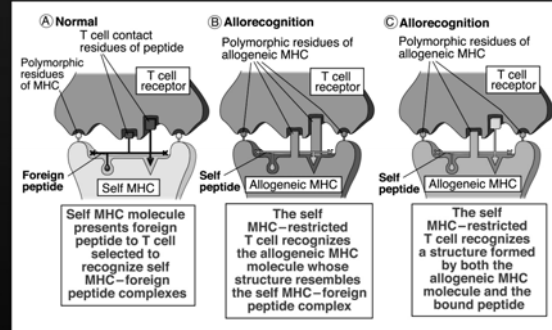


From Abbas, Lichtman, & Pober: Cellular and Molecular Immunology, W.B. Saunders, 1999, Fig. 16-3

Menu

Slide 16-4

### Molecular basis of direct allogenic MHC recognition



From Abbas, Lichtman, & Pober: Cellular and Molecular Immunology, W.B. Saunders, 1999, Fig. 16-4

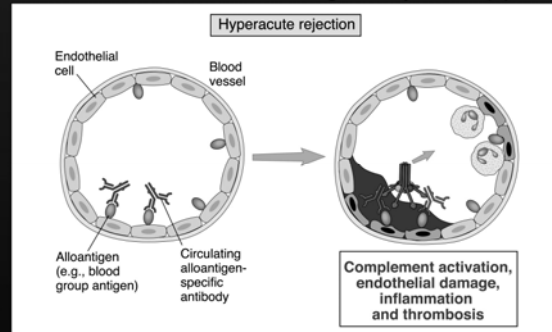
Menu

## Transplantation

- Rejection is mediated primarily by T cells but antibodies are also important
- Rejection occurs with the same timing as other immune responses
  - Hyperacute rejection
  - Acute Rejection: First-set rejection & Second set rejection
  - Chronic rejection

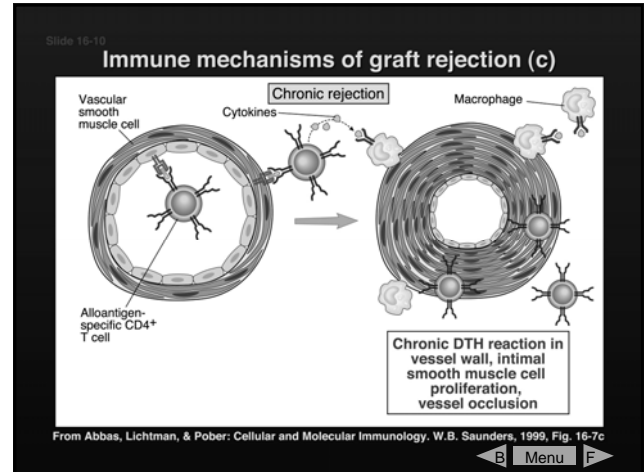
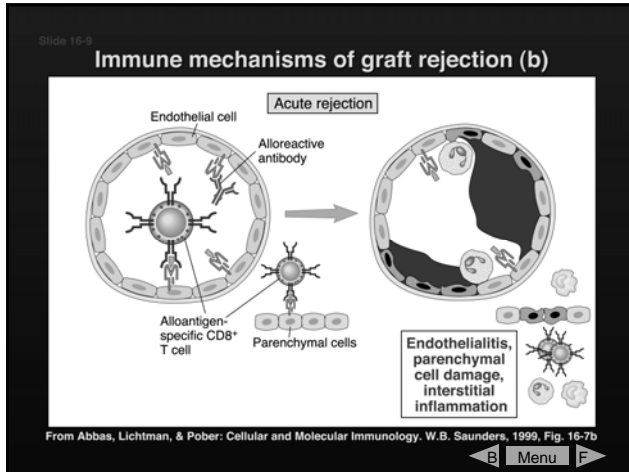
Slide 16-8

### Immune mechanisms of graft rejection (a)



From Abbas, Lichtman, & Pober: Cellular and Molecular Immunology, W.B. Saunders, 1999, Fig. 16-7a

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## Graft vs. Host disease

- When immunocompetent T cells are transplanted into a tissue incompatible immunodeficient recipient the donor T cells recognize and reject the recipient
  - This is more of a problem in bone marrow transplantation but can occur in any grafting procedure