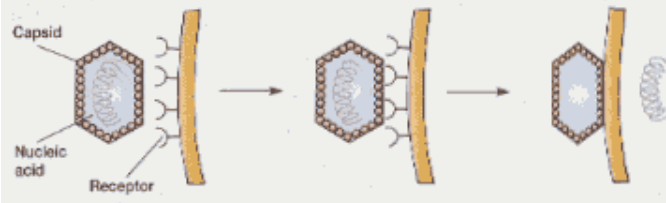
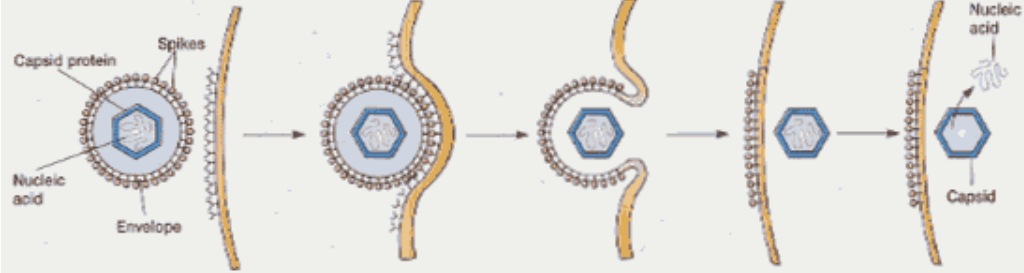


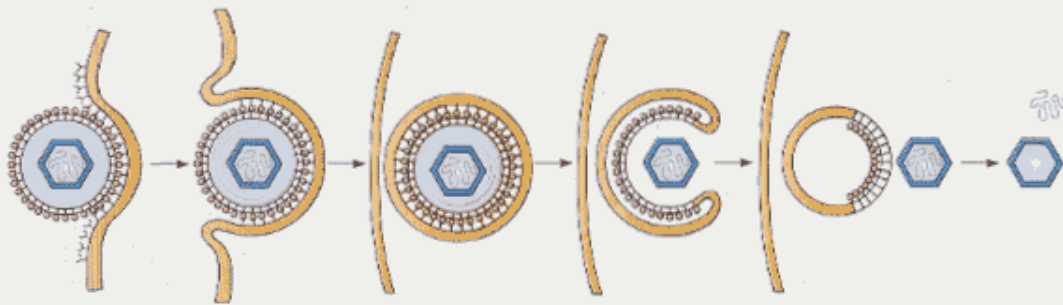
(a) Direct penetration by naked viruses



(b) Enveloped virus fusing with plasma membrane



(c) Entry of enveloped virus by endocytosis



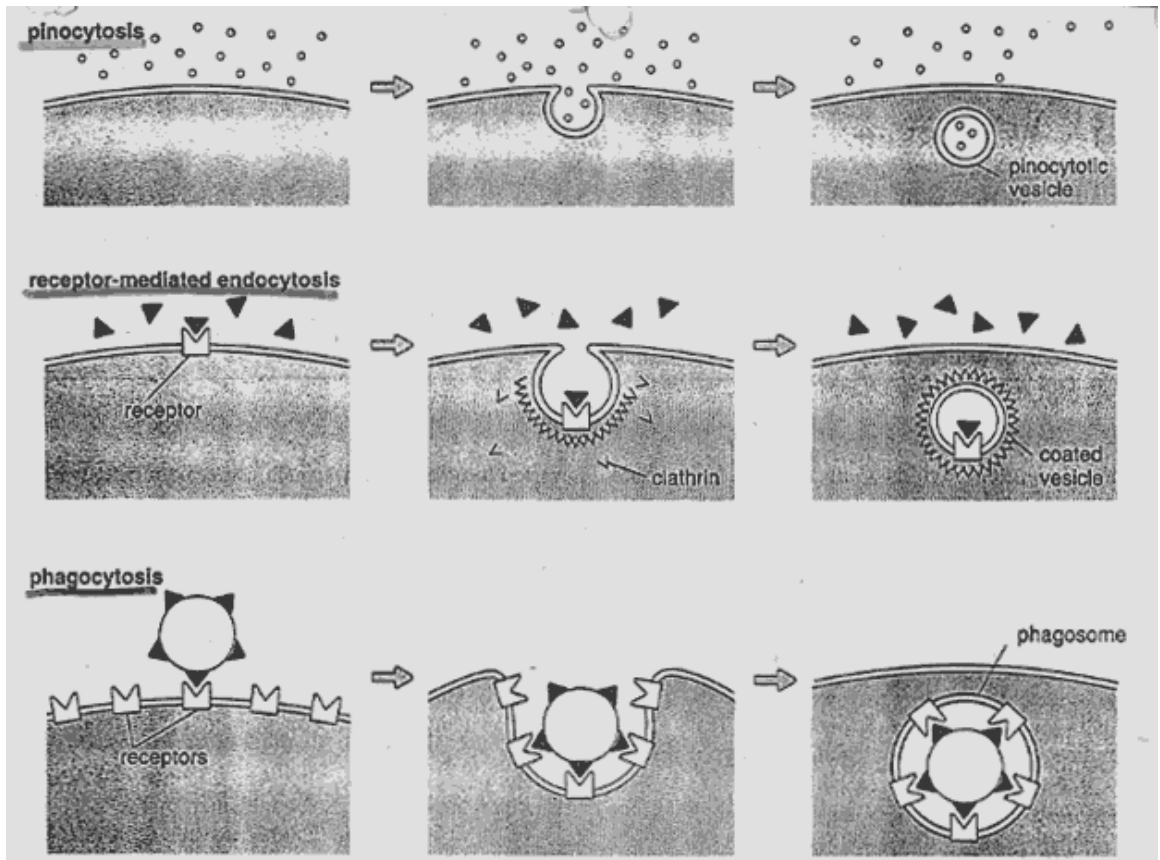


Figure 2-6. Three major pathways for bringing extracellular materials into a cell. Pinocytosis ("cell drinking") occurs through formation of minute surface vesicles filled with unmodified extracellular fluid. Receptor-mediated endocytosis is triggered by the binding of a soluble ligand to one or more specific surface receptors; the resulting polymerization of clathrin protein on the cytoplasmic aspect of the plasma membrane leads to invagination of the receptor and formation of a coated pit. Phagocytosis occurs when multiple surface receptors sequentially engage the surface of a target particle, usually >100 nm in diameter. Pinocytotic and coated vesicles, like phagosomes, are lined by a single lipid bilayer derived from the plasma membrane.

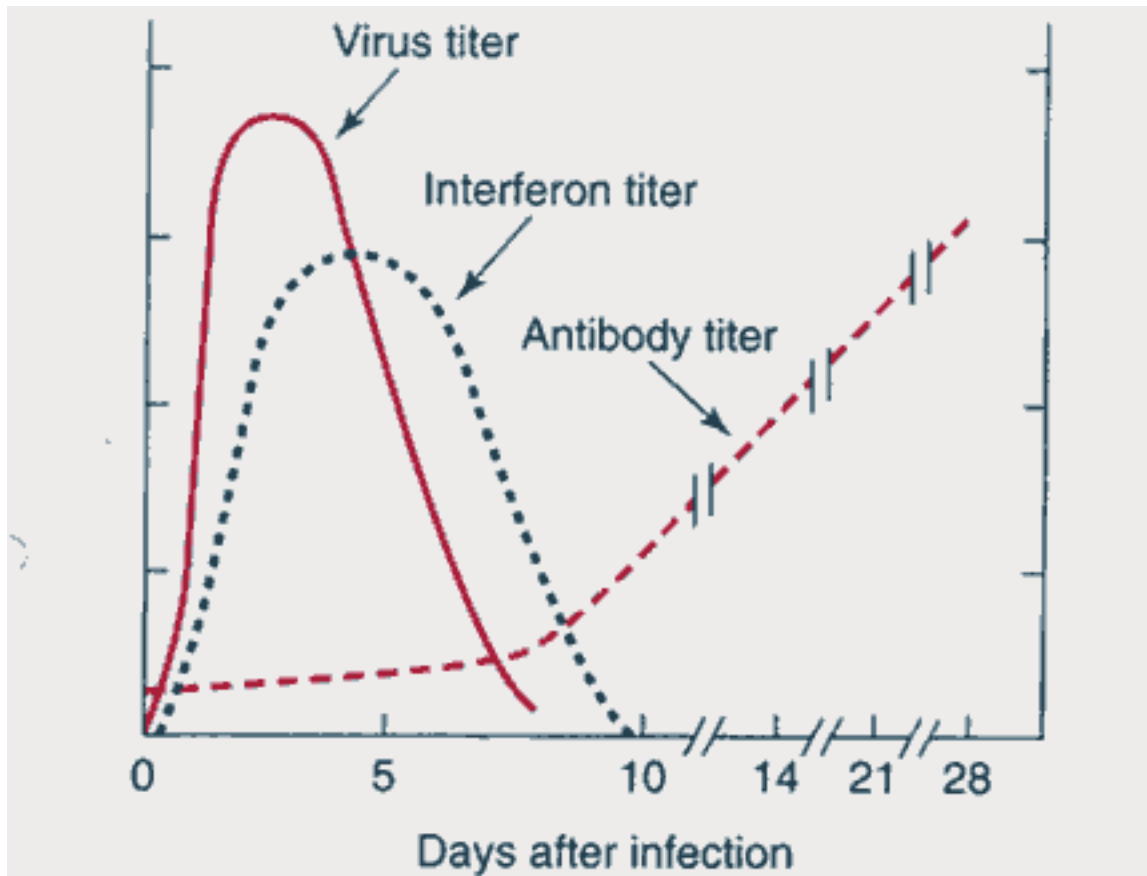
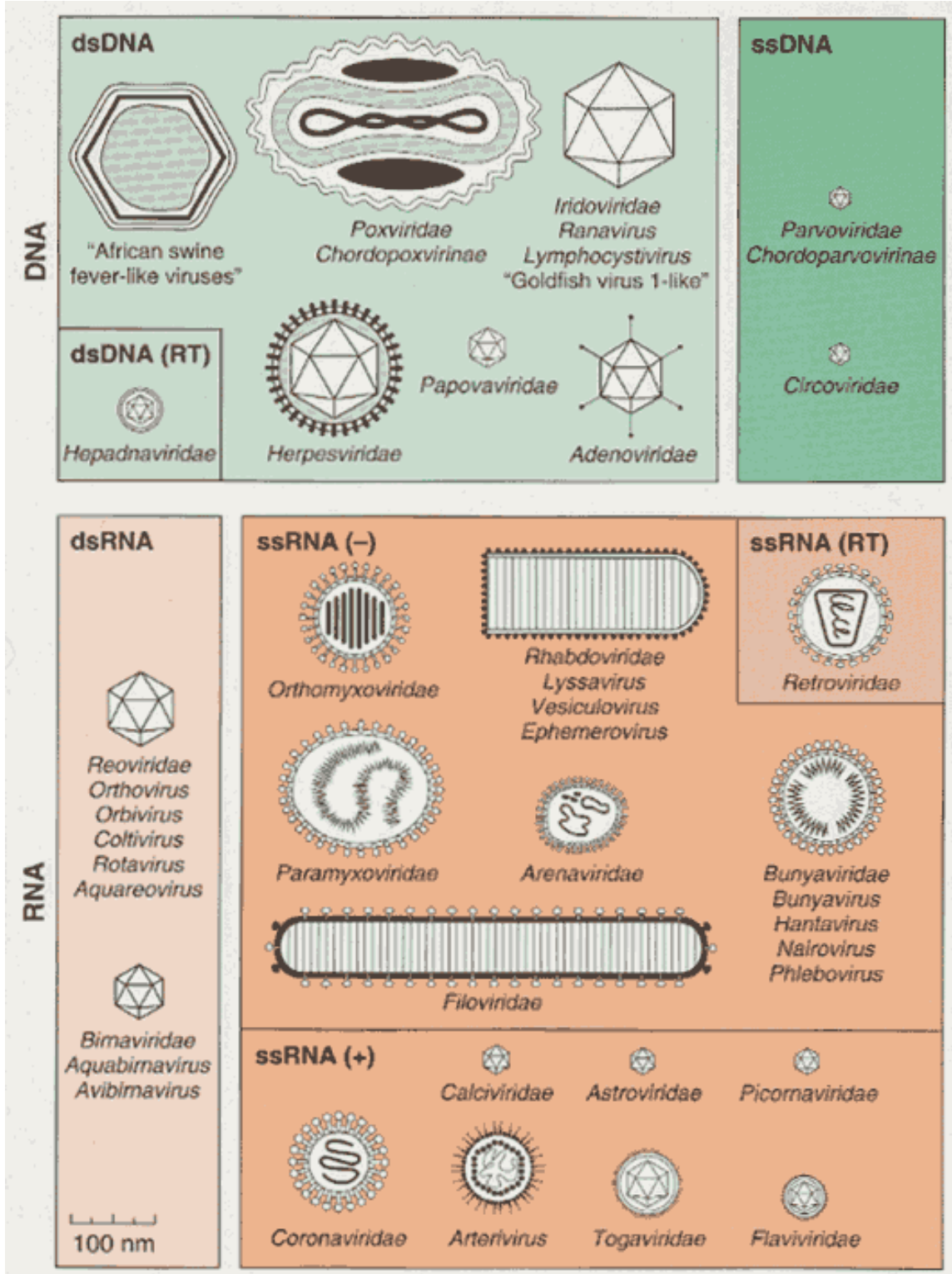
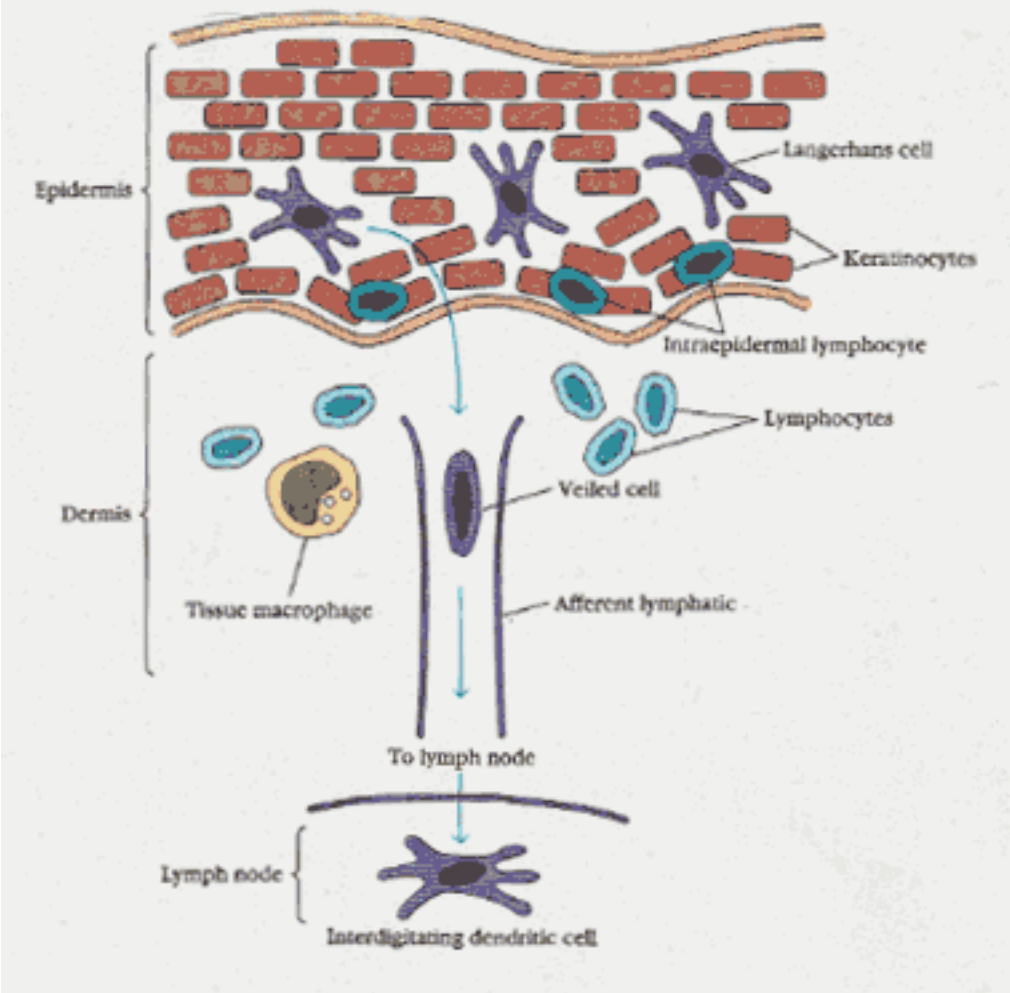
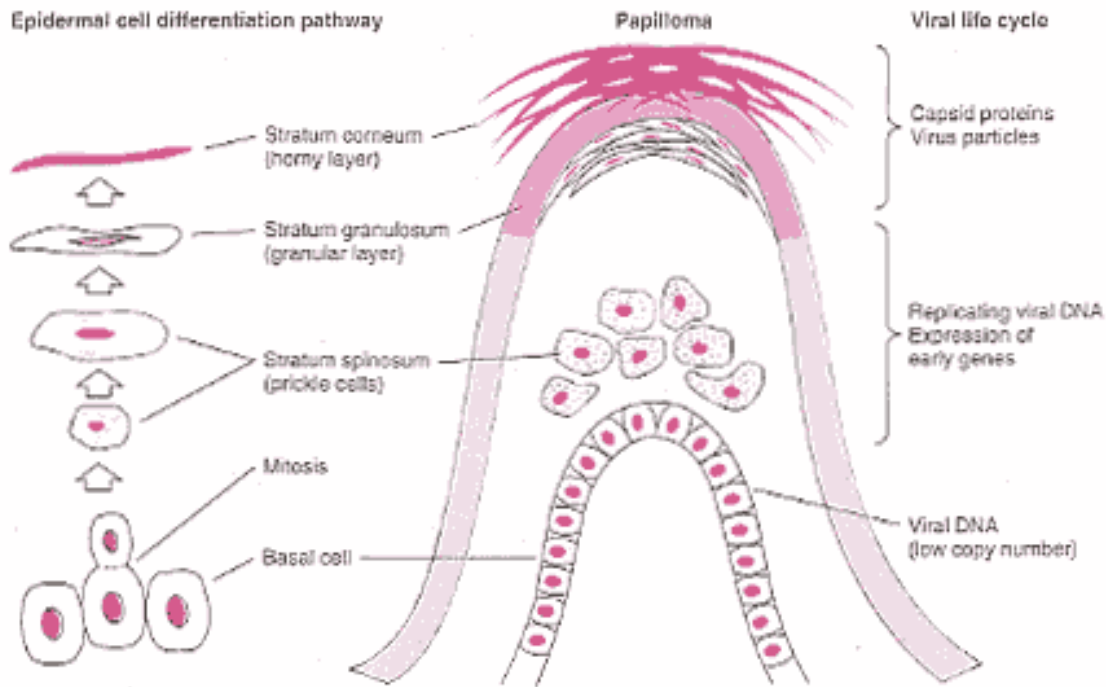


Figure 30–9. Illustration of kinetics of interferon and antibody synthesis after respiratory viral infection. The temporal relationships suggest that interferons are involved in the recovery process.





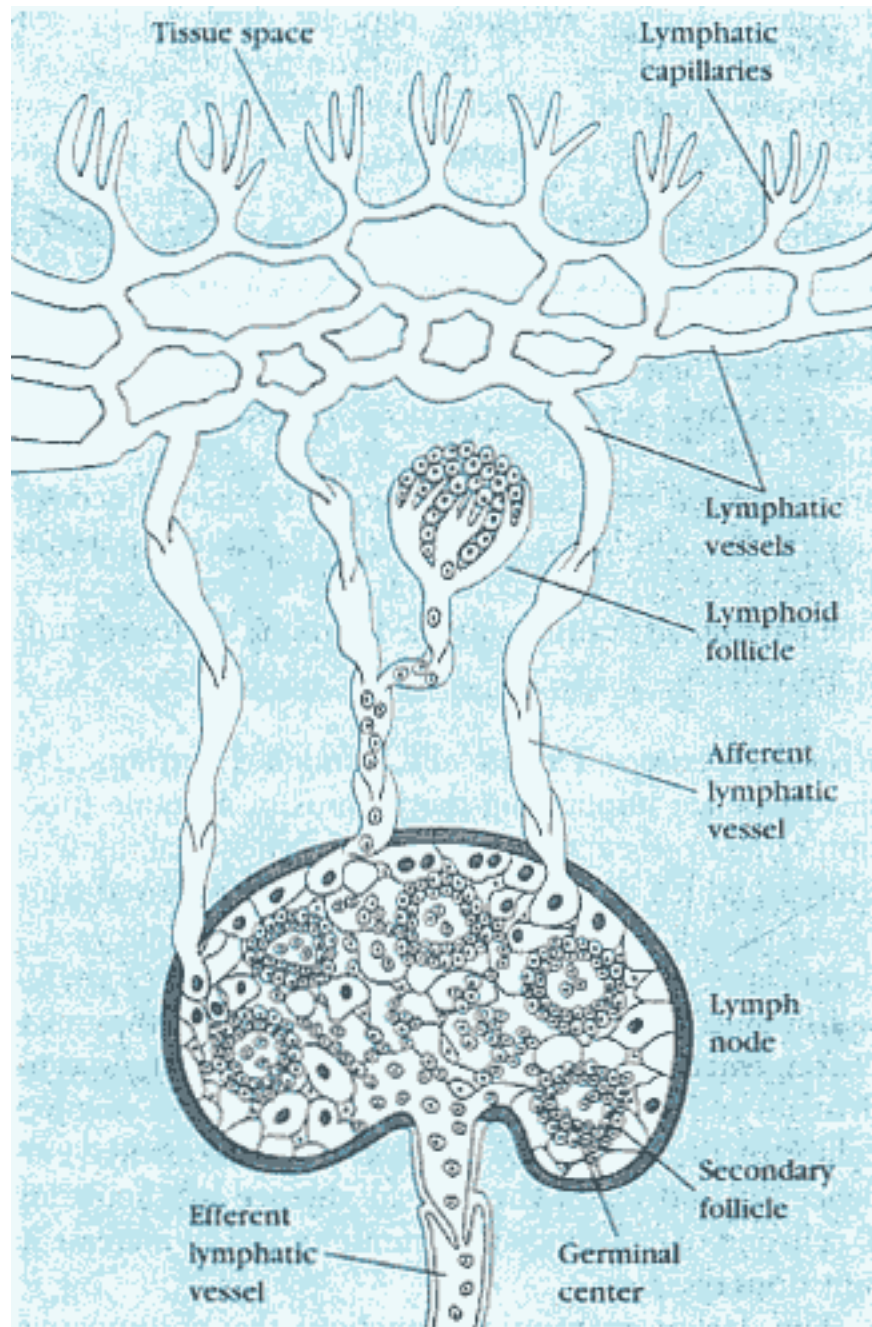


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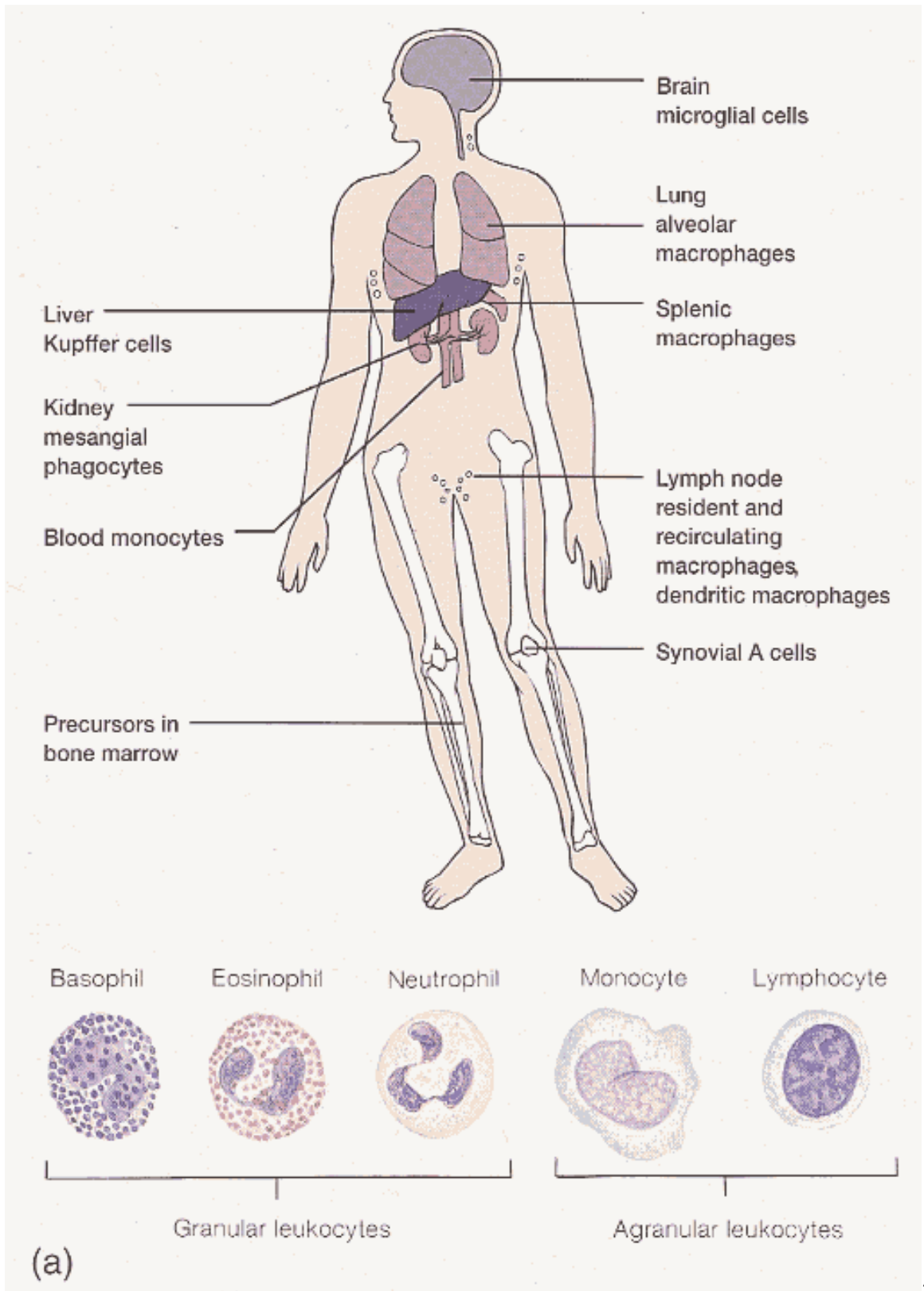
Table 3.2. Examples of infections in which microorganisms enter across epithelial surfaces and subsequently spread through the body

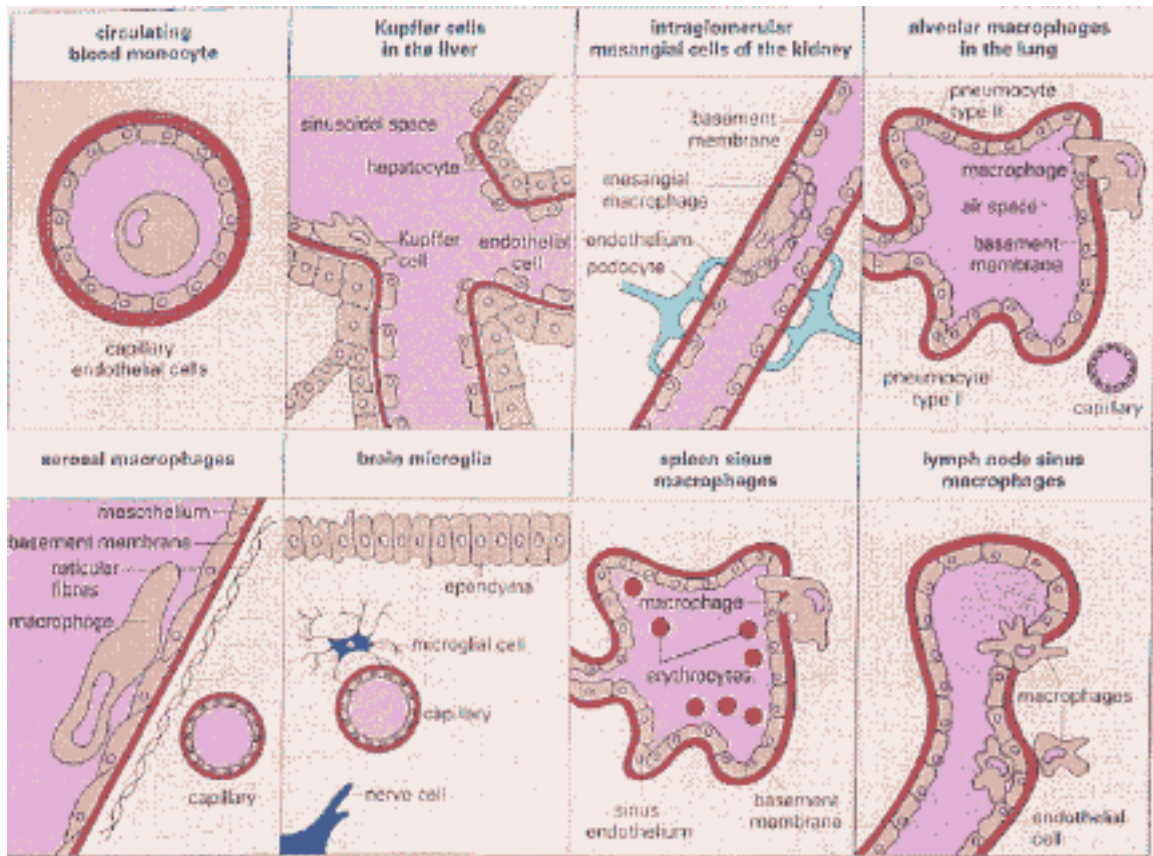
Microbe	Respiratory tract and conjunctiva	Urinogenital tract	Skin	Intestinal tract
Viruses	Measles Rubella Varicella	Herpes simplex 2	Arboviruses	Enteroviruses Certain adenoviruses
Bacteria	Psittacosis	Lympho-granuloma venereum	—	—
	<i>Myobacterium tuberculosis</i> <i>Yersinia pestis</i> Q fever	<i>Treponema pallidum</i>	<i>Bacillus anthracis</i>	<i>Salmonella typhi</i>
Fungi	Cryptococcosis Histoplasmosis	—	Typhus Maduromycosis	Q fever? Blastomycosis
Protozoa	Toxoplasmosis	—	Malaria Trypanosomiasis	<i>Entamoeba histolytica</i>

5g



5h





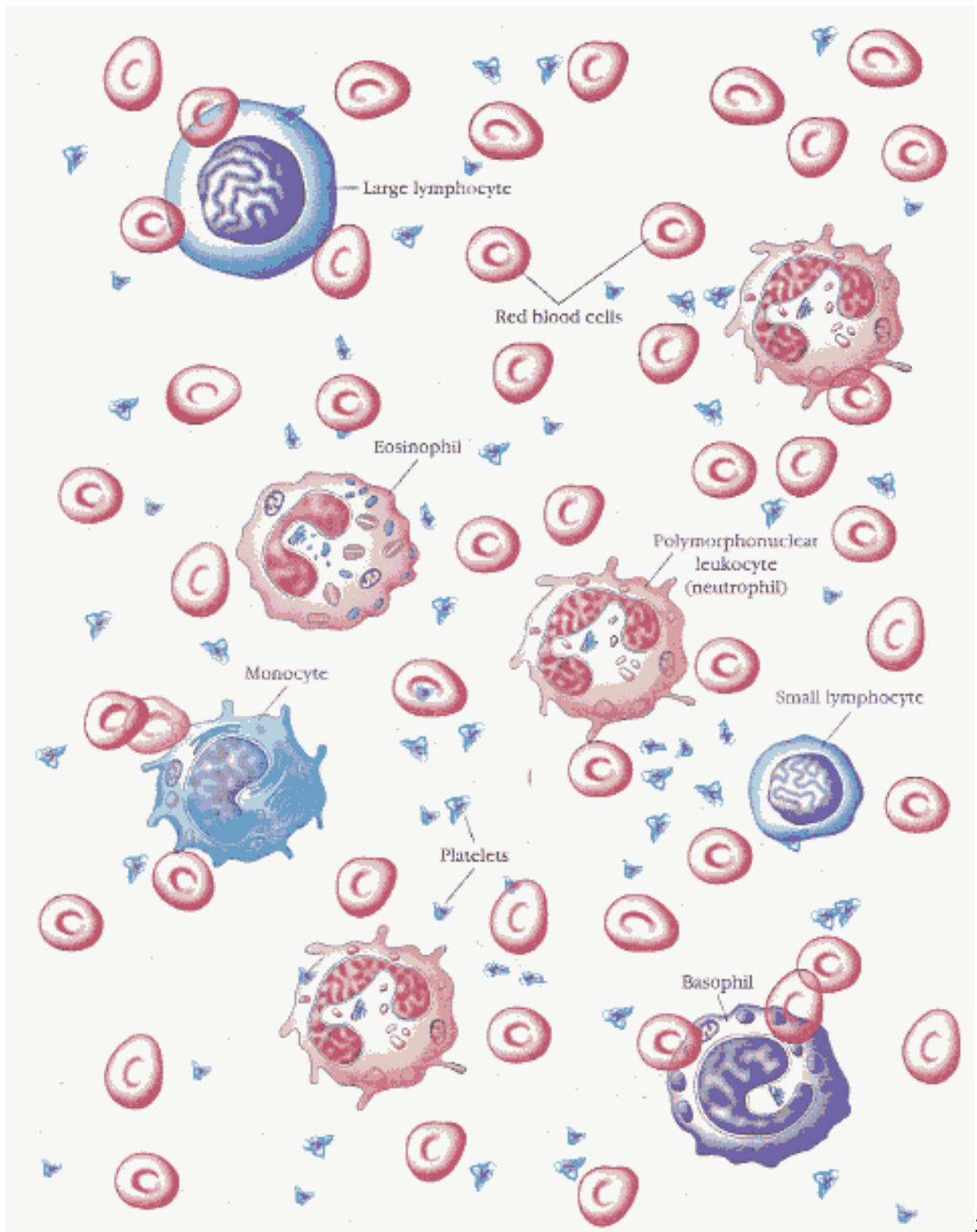
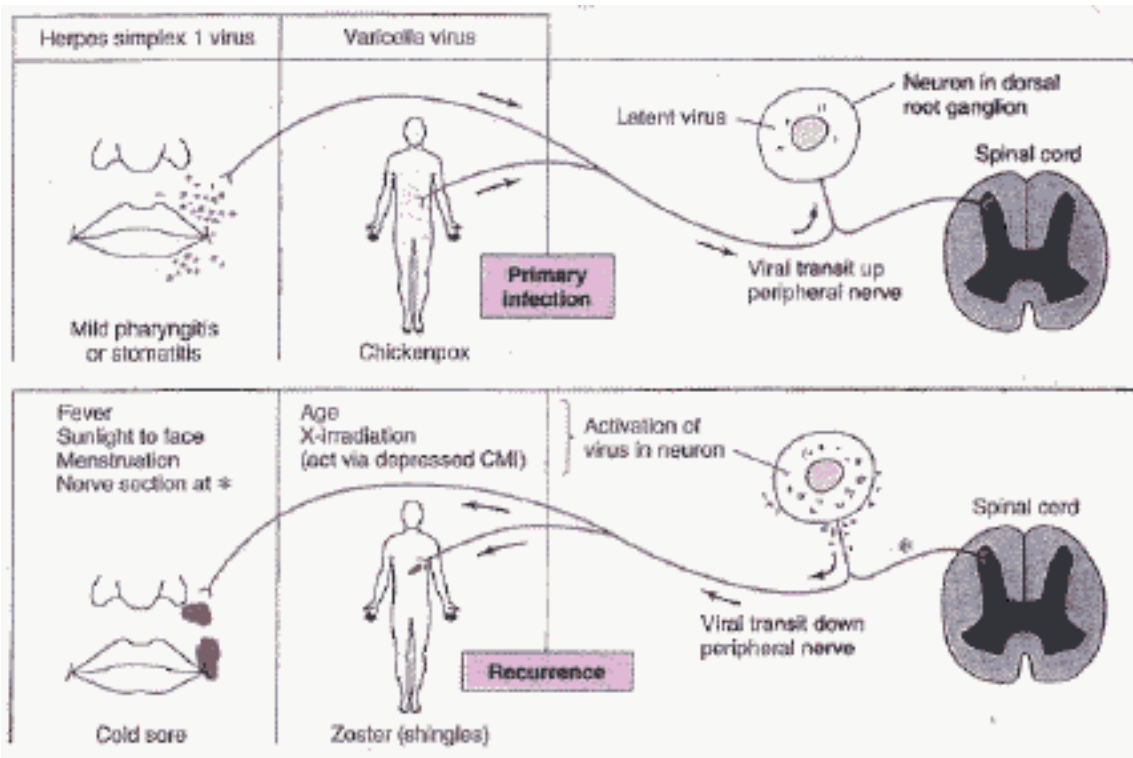


Table 5.1. Carriage of microorganisms in different compartments of blood*

	Free in plasma	Leucocyte associated			
		Mononuclear cells	Polymorphs	Erythrocyte associated	Platelet associated
Viruses	Poliovirus Yellow fever Hepatitis B	Measles EB virus Herpes simplex Cytomegalovirus		Colorado tick fever virus	Murine leukaemia virus LCM virus
Rickettsias	All types				
Bacteria	Pneumococci <i>Leptospira</i> <i>B. anthracis</i> <i>Borrelia recurrentis</i>	<i>Mycobacterium leprae</i> <i>Listeria</i> <i>Brucella</i>	Pyogenic bacteria	<i>Bartonella bacilliformis</i>	
Protozoa	Trypanosomes	<i>Leishmania</i> <i>Toxoplasma gondii</i>		Malaria <i>Babesia</i>	

* Carriage in more than one compartment is possible, e.g. LCM virus is present in platelets, leucocytes and plasma of infected mice.

51



5m

