

Solutions

2.1

- The dendritic cell.

2.2

- Arrival 30–60 min; peak ~6 h ✓.

2.3

- No rearranged receptor: germline recognition of stressed cells.

3.1

- Neutrophils are the first tier; without them bacteria spread unchecked while the adaptive response needs days.
- Immediate broad-spectrum antibiotics after cultures – minutes matter.
- Neutrophils generate much of the inflammatory localisation (pus, margins): signs are blunted despite bacteraemia.

3.2

- The spleen filters opsonised bacteria from blood (macrophage-rich pulp) – an innate-style clearance organ.
- Encapsulated organisms (pneumococcus, meningococcus, Hib) evade complement alone.
- Vaccination (pneumococcal, meningococcal, Hib) plus penicillin prophylaxis: antibodies restore opsonisation for the missing filter.