NATIONAL INTEGRATED GUIDELINES FOR NEONATAL CARE IN SOUTH AFRICA

Normal Transitioning of the Newborn

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09 April 2024

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REPUBLIC OF SOUTH AFRICA

2030 NDP

30 YEARS OF FREEDOM
South Africa 1994 - 2024

Introduction

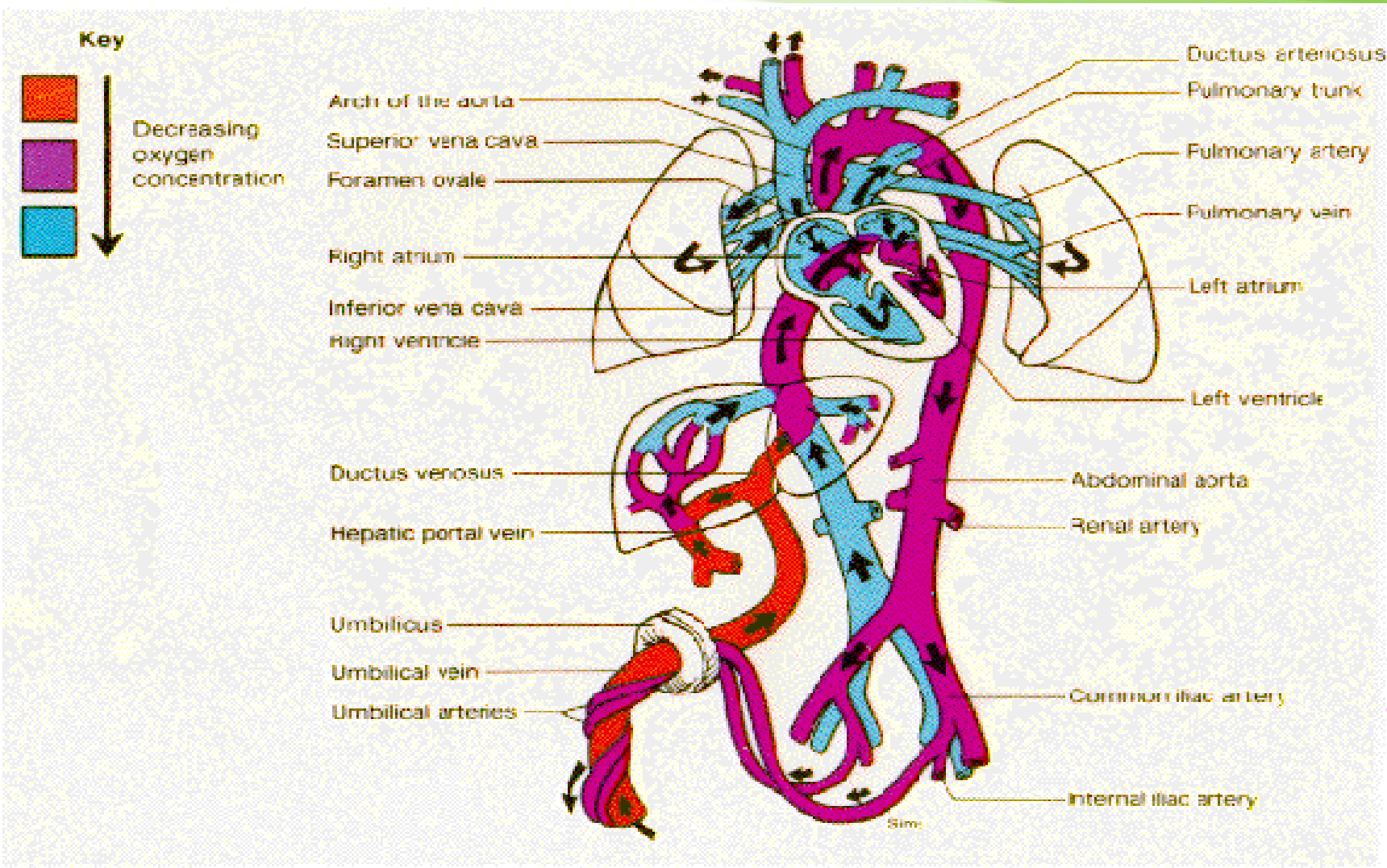
Successful transition from intrauterine to extrauterine life is dependent upon significant physiologic changes that occur at birth.

In most babies (90%), these changes, are successfully completed at delivery without any intervention.

NORMAL NEWBORN TRANSITION

- The essential components for a normal newborn transition are:
  - Clearance of fetal lung fluid.
  - Decrease in pulmonary vascular resistance.
  - Increase in pulmonary blood flow.
  - Conversion from fetal (parallel) to newborn (series) circulation.
  - Endocrine support of the transition.

Foetal Circulation

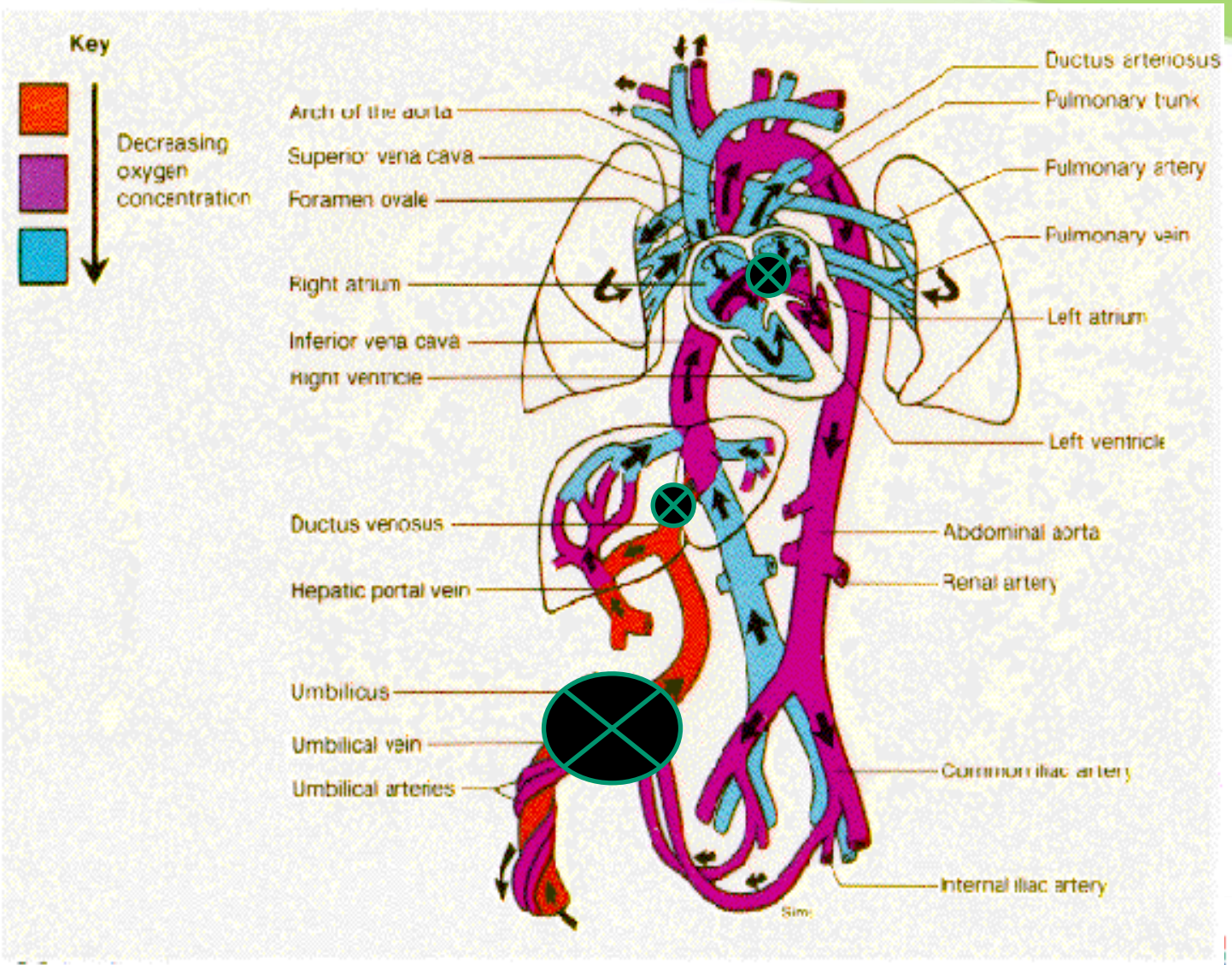


ADAPTATIONS

- Adaptations occur in
  - Cardiovascular System
  - Respiratory System
  - Thermoregulation
  - Endocrine System

Foetal Circulation

Adaptation



NORMAL TRANSITION

- Immediately after birth, well newborns, not requiring resuscitation will tolerate oxygen saturations of 60-70 per cent.

- Thereafter, pre-ductal oxygen saturation (saturation probe on the right hand or right ear) gradually increases without any intervention and may take > 10 minutes to reach normal values of > 92 per cent

- Do not expect the oxygen saturation in well newborns to be “normal” immediately after delivery.

TARGETED PRE-DUCTAL OXYGEN SATURATIONS AFTER BIRTH (RIGHT HAND)

Time after birth	Oxygen saturations
1 minute	>60%
2. minutes	>65%
3 minutes	>70%
4 minutes	>75%
5 minutes	>80%
≥ 10 minutes	85-95%

Placing the saturation probe on the right hand, monitors the response to resuscitative efforts to observe a gradual increase in oxygen saturation following an intervention.

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IN SUMMARY

The essential components for a normal neonatal transition is

- Clearance of foetal lung fluid
- A decrease in pulmonary vascular resistance
- Increase in pulmonary blood flow
- Establishment of breathing and surfactant secretion
- Transition from foetal (parallel) to neonatal (series) circulation
- Endocrine support of the transition

Thank You