Figure 9.2  Gastrulation and neurulation in a chick embryo

(A) Primitive streak

(B) Neural plate

(C) Neural folds

(D) Neural groove

(E) Neural fold

(F) Neural plate

(G) Neural fold

(H) Neural tube

(I) Neural groove

(J) Neural fold

(K) Neural plate

Figure 9.4  Primary neurulation: neural tube formation in the chick embryo

(A) Neural tube formation

(B) Neural tube folding

(C) Neural tube extension

(D) Neural tube convergence

(E) Neural tube closure

(F) Neural tube closure (continued)
Figure 9.6  Expression of N- and E-cadherin adhesion proteins during neurulation in *Xenopus*

Figure 9.7  Folate-binding protein in the neural folds as neural tube closure occurs
Figure 9.8 Secondary neurulation in the caudal region of a 25-somite chick embryo

(A) Surface ectoderm
Condensing mesenchymal cells

(B) Medullary cord
Transitional region

(C) Neural tube

(D) Notochord
Figure 10.1 Neural crest cell migration (Part 1)

(A)

Figure 10.1 Neural crest cell migration (Part 2)

(B) Exp. 1 injection Exp. 2 injection

Neural crest cell Fluorescent dextran

2 days

Exp. 1 results Exp. 2 results

Melanocytes Dorsal root ganglia

Ventral root Schwann cells

Sympathetic ganglia

Adrenal medulla

Aorta
Figure 10.2  Model for neural crest lineage segregation and the heterogeneity of neural crest cells.

Figure 10.3  Specification of neural crest cells (Part 1)
Figure 10.3 Specification of neural crest cells

(A) Placodal ectoderm

- Wnt
- BMP

Epidermis

Placodal cells

- Wnt
- BMP

Neural crest

- Wnt
- BMP

Neural cells

(B) Neural plate inductive signals: BMPs, Wnts, FGFs, Notch

- Neural plate border specifiers: Dlx, Pax3/7

- Neural crest specifiers: FoxD3, Twist, Snail

- Neural crest effectors: MITF, Rho GTPases, Kit, Ret