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UROLOGY BOARD REVIEW MANUAL

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Nonseminomatous Germ Cell Tumors

Urinary Incontinence

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Chapter 1—Nonseminomatous Germ Cell Tumors

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I. OVERVIEW OF TESTICULAR CANCER

- A. Testicular cancer represents the most common malignancy in males between the ages of 15 and 35 years.¹
- B. Testicular cancer is one of the most curable solid neoplasms.
- C. Improvements in diagnostic techniques, tumor markers, surgical approaches, and chemotherapeutic regimens have decreased mortality rates.
- D. Treatment of testicular cancer involves various modalities alone and in combination.
- E. Testicular cancer has been classified as germ cell or non-germ cell tumors. Germ cell tumors are further divided histologically into seminomas and nonseminomatous tumors (**Table 1**). This review focuses on nonseminomatous germ cell tumors.

II. CLASSIFICATION OF NONSEMINOMATOUS TESTICULAR CANCER

- A. Tumors designated as nonseminomatous include the following:
 - 1. Germ cell tumors
 - a. Embryonal carcinoma

- b. Teratoma
 - c. Choriocarcinoma
 - d. Yolk sac tumor
 - e. Combinations of the above
 - 2. Non-germ cell tumors
 - a. Leydig cell tumor
 - b. Sertoli cell tumor
 - c. Gonadoblastoma
 - d. Carcinoid tumor
 - e. Epidermoid tumor
- B. Germ cell tumors comprise approximately 95% of testicular tumors. Seminomas comprise approximately 35% to 70% of germ cell tumors.
- C. Approximately 60% of testicular germ cell tumors consist of 2 or more histologic types. In microscopic examination, the relative amounts of each component should be estimated to aid in classification.

III. DESCRIPTION OF TUMOR TYPES

- A. **Germ cell tumors**
 - 1. **Embryonal carcinoma**
 - a. Origin. This tumor occupies a midway position on the spectrum of differentiation between seminoma and teratoma.