

Introduction to Transmission Electron Microscopy

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Abstract

The transmission electron microscope (TEM) is an integral component of many diagnostic pathology services throughout the world. The contribution of electron microscopy in renal pathology is well recognised, and the technology can be applied with great effect to many other tissue systems and diseases. But why use a TEM? This short presentation outlines the basic principles of specimen preparation and microscope design, and highlights the physical properties that enable the TEM to attain image resolution at magnifications greater than those obtainable by the light microscope. The visualisation of subcellular detail lays the foundation for the art and science of ultrastructural pathology.