Physiological and Technical Aspects of Patient Monitoring
And Case Studies in ‘Why Things Go Bad!’

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Description: This presentation will review essential physiological principles that underly effective patient monitoring and support. Emphasis is placed on autonomic control and fundamentals of respiratory and cardiovascular function that provide the basis for various monitoring systems and clinical interventions. Case studies will be presented that demonstrate the importance of proper medical assessment and patient monitoring in preventing adverse outcomes.

Topics:

- Autonomic control of respiratory and cardiovascular systems and the synaptic basis for drug interventions.
- Respiratory Function: Ventilation, perfusion, oxygenation, gas transport, volumes & capacities
- Respiratory Monitoring: Auscultation, etCO₂, SpO₂
- Cardiovascular Function: Cardiac output, arterial pressure, coronary perfusion
- Cardiovascular Monitoring: Oximetry probe, ECG, NIBP
- Case Studies

Objectives:

1. Describe essential principles of autonomic control that influence patient monitoring and support.
2. Describe physiological aspects of respiratory and cardiovascular function that determine the effective use and interpretation of patient monitoring.
3. Discuss the critical roles of medical assessment and appropriate monitoring in avoiding adverse events.

Biographical Sketch:

Dr. Becker received a BS in Zoology at Ohio University in 1968 and his DDS from Ohio State University in 1972. Upon graduation formal training opportunities were limited and he spent extensive periods on anesthesia services at Miami Valley Hospital in Dayton, Ohio where he is Associate Director of Education for the General Practice Dental Residency. In addition to his academic responsibilities, Dr. Becker provides sedation services for dental practices throughout the Dayton area and has published numerous articles in scientific journals and textbooks. He lectures extensively for dental organizations, colleges and universities on topics related to pharmacology, sedation and anesthesia, medical assessment and medical emergencies. Dr. Becker is noted for his pragmatism and his ability to convert otherwise "dry" material into formats that are both entertaining and informative.