

## **Urinalysis**

### **Pyuria**

- Leukocyte esterase
- False Negative
  - Concentrated urine
  - Urobilinogen
  - Ascorbic acid
  - Sterile pyuria

### **Nitrite testing**

- Indirect test for bacteriuria
- Many Gram Negative bacteria convert nitrates to nitrites
- Nitrite detected by reaction with disptick reagents which form a red azo dye
- Specificity for bacteriuria 90%
- Sensitivity 35%-85%
- False Negative: Pseudomonas, TB, Fungal UTI

### **Protein**

- Bromophenol blue turns yellow in presence of protein
- Normal 24 hour excretion < 150mg

### **Glucose**

- Glucose oxidises causes colour change at concentration of 5mmol/l

### **Casts**

- Contents of renal tubules
- Granular are white/red blood cells
- Red cell casts suggest glomerular bleeding
- Hyaline are protein

### **Beeturia**

- Beetroot absorbed in Colon
- Dose Dependant + Occurs in 1st void after ingestion
- 40% incidence
- Single autosomal recessive gene for ability to form red urine
- Excretion of: Betacyanines (Red) & Betaxanthines (Yellow)
- Very pH dependant

### **Asparagus Urine**

- Asparagus Officinalis
- Autosomal Dominant
- Possible olfactory disturbance
- Metabolism of Precursor Molecules (DMSO) to Asparagulic Acid