Efficacy and safety of topical diclofenac sodium for osteoarthritis of the knee: Recent Data

- Topically applied NSAIDs reduce systemic exposure compared with oral NSAIDS, and European guidelines recommend their use.

- A 4 week, randomized, double-blind study compared pain relief with diclofenac sodium 2% topical solution versus control (vehicle only) in 260 patients with primary osteoarthritis of the knee.

**Administration of topical diclofenac sodium resulted in significantly greater improvement in pain reduction in patients with OA of the knee vs. vehicle control and was generally well tolerated.**

*No serious AEs were reported.*

Evaluation of the long-term glycemic control of fasting plasma glucose and glycosylated hemoglobin for pioglitazone in comparison with other oral glucose-lowering drugs in type 2 diabetes.

- A pharmacodynamic model analyzed the time course of fasting plasma glucose (FPG) and glycosylated hemoglobin (HbA1c) reduction for pioglitazone with or without other oral glucose-lowering drugs (N=293) vs. other oral glucose-lowering drugs (N=294).
  - Samples for FPG and HbA1c were collected over 2.5-4 years.
  - Treatment was adjusted to achieve HbA1c <6.9%.

**Pioglitazone was superior in both time to maximum effect and the magnitude of reduction achieved in FPG and HbA1c.**

*Additional reduction in FPG and HbA1c for pioglitazone was predicted to be maintained beyond the currently observed study duration.*
Single dose oral mefenamic acid for acute postoperative pain in adults: Proof of Efficacy and Safety

- Mefenamic acid is often used for treating short term (≤7 days) pain, including dysmenorrhea, headache, dental pain.
- The efficacy of a single dose of oral mefenamic acid was also demonstrated in acute moderate-to-severe postoperative pain based on a recent review of key databases (Cochrane CENTRAL, MEDLINE, EMBASE and the Oxford Pain Relief Database).
- No serious adverse events or adverse event-related withdrawals were reported.

Efficacy and tolerability of a short course of third-generation cephalosporins in the management of acute pyelonephritis in young women

- Urinary tract infections, among the leading causes of antibiotic prescriptions in adult women, are complicated by increasing antibiotic resistance.
- The efficacy and tolerability of a 7 day treatment regimen with 1 g of ceftriaxone injection followed by 6 days of cefixime 400 mg/day in uncomplicated acute pyelonephritis was assessed in 37 women (age=18 to 65 years) in a pilot study.

Could a bacteria-killing protein lead to a new treatment for diabetes?

Why would a bacteria-killing protein be present in an area of the body that is not normally exposed to bacteria, like the pancreas? Researchers have puzzled over this question for some time, until they eventually discovered that the protein in question was doing something entirely unexpected -- it was actually helping the pancreas regenerate and produce insulin. This bacteria-killing protein, called cathelicidin antimicrobial peptide (CAMP), is produced by the same pancreatic cells that produce insulin in rats, mice and humans. When pancreatic cells in the laboratory were treated with CAMP, it was found to double insulin secretion. When diabetes-prone rats were injected with CAMP, signs of increased regeneration appeared in the pancreas. This novel discovery could lead to a new treatment for diabetes.
Dual lipid-lowering strategy with ezetimibe and atorvastatin regresses coronary plaques in patients with percutaneous coronary intervention (PCI)

- Despite statin therapy, a majority of patients retain a high "residual risk" of cardiovascular events.

- A randomized, multicenter study evaluated effects of ezetimibe plus atorvastatin vs. atorvastatin monotherapy on lipid profile and coronary atherosclerosis in 202 Japanese patients who underwent PCI.
  - Intravascular ultrasound was used to quantify the coronary plaque response.

- The combination of atorvastatin/ezetimibe resulted in:
  - Lower LDL-C
  - Reduction in atheroma volume
  - Greater percentage of patients with coronary plaque regression

- Low incidence of laboratory abnormalities and cardiovascular events

**Compared with standard statin monotherapy, the combination of statin plus ezetimibe showed greater coronary plaque regression, which might be attributed to cholesterol absorption inhibition-induced aggressive lipid lowering.**

Immunomodulatory Effects of Levofloxacin on Patients with Pneumonia

- Immunomodulatory effects of antibiotics could influence the degree of systemic and local responses to infection
  - Fluoroquinolones are known to exert modulatory activity on immune responses to microbial infection. However the mechanism has not been well documented.

- Immunomodulatory effects of levofloxacin were assessed on concentrations of the pro-inflammatory cytokine tumor necrosis factor α (TNF-α) and the anti-inflammatory cytokine Interleukin - 10 (IL-10) in serum of 40 pneumonic patients.

- Levofloxacin significantly decreased mean levels of TNF-α and IL-10.

**Levofloxacin exerts an IMMUNOMODULATORY effect in patients with pneumonia**
This may provide additional benefits in treatment of respiratory tract infections, independent of its antibacterial properties.