

## 6 - 08 Prevent Medical Error Patient Safety Information Warm weather prescription storage and handling:

### **Biologic drugs (derived from a living cell) like insulin have:**

- Short shelf-life - insulin often has a 90 day shelf-life  
Always check the drug expiration date on the manufacturer's packaging; cross reference with pharmacy label discard date and use within the shorter date.
- Require specialized storage and handling like refrigeration
- Require administration or are self-administered
- Are more dangerous if used when adulterated (made impure, substandard, and/or defective) due to:
  - Improper manufacturing/documentation, packaging, shipping & handling, warehousing, distribution.
  - Improper dispense - pharmacy discard date is extended beyond manufacturer's
  - Improper patient (or provider) storage, handling or administration
  - Improperly administered. Reusing syringes, using adulterated syringes, improper sterile technique...forgetting to wash hands or use alcohol swabs.

### **Some drugs like insulin, asthma inhalers, hormones, antiepileptic drugs and tetracycline and other antibiotics (doxycycline) are more dangerous to use if they are adulterated (made impure, substandard or defective). Adulterating elements include:**

- Exposure to summer heat and humidity that is above the Manufacturer's FDA approved temperature range is adulterating, and may cause
  - Inhaled medications, injectable medication like insulin and other liquid medications to dissipate and change the amount- the dose of medication that is inhaled, injected or ingested. the elderly and pediatric patients are generally more at risk to side effects caused by accidental dosage changes
  - Heat and humidity may cause chemical molecule drugs to change chemical structure and breakage/breakdown of coating or capsule. When exposed to heat or other adulterating elements, tetracycline antibiotics can become nephrotoxic.

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- Exposure to sun increases temperature and can also cause adulteration if the medication or device directions require it to be stored in away from sunlight, so medication storage areas may change.
  - Heat can cause biologics or other organic compound ( sulphur etc.) injectables to turn rancid. Sniff medications before use to ensure safety
  - Use beyond expiration date. Note - Pharmacy discard dates on pharmacy bottles often differ from manufacturer's expiration date. Key drugs: hormones, antimicrobials and antiepileptic drugs
- Use beyond the manufacturer expiration date
  - Use of adulterated components
  - Improper manufacturing, packaging shipping/handling.

**In the warm weather months, people are outside and/or traveling more. Extra precautions need to be taken with insulin, inhalers, tetracycline and many other prescriptions.**

- Never leave insulin or other prescriptions in the car for long periods of time. note: dashboards and glove compartments are in cars (and trucks & SUV's)
- Use icepacks and coolers when necessary:
  - Put water in used water or soda bottles and freeze them for warm weather drug packs. Pharmacists/pharmacies are another potential good source of icepacks.
  - Use icepacks with school lunchboxes, insulated briefcases, lunch packs, fanny packs, or small collapsible coolers available at the Dollar Store or other discount stores to carry medications and medical equipment.
  - Remember to “upsized” your icepacks and portable storage in the warm months
  - Wash hands before taking medication. Sterile wipes or baby wipes are great to use when sinks or water is not readily accessible.
  - Clean ice packs and medication packs after use.
  - Dispose of medical waste properly.
- FYI- Generic drug issues: Thyroid medications; Antiepileptics & Psychiatric. New generic - Depakote (Abott) generic name: divalproex epilepsy & bipolar disorders.