CEW Workshop:
Themes from Day #1

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Theme: *Complex / Multifactorial*

- **Arrests using force**
- **Drugs**
- **Stress**
- **Interaction**
- **Luck**
- **Taser**
Theme: *Trust*

- Population / Police
- Police / Weapons
- Police / Training
Theme: **Risk**

- "Safe" is wrong word
- Taser's have a *relative risk*
- Taser's are best choice is many situations
Theme: *Research*

- Expectations of scientific justifications
- "Evidence Based" policing
- Police initiated research questions
  - Lack of funding, except for crisis
- Need to improve academic / police collaboration
Theme: *Lessons*

Reality: we've invested $$$ in Tasers
  • Manage current "crisis"
  • Learn lessons for next police technology
Theme: *Testing*

- Performance measurement
  *Is this weapon reliable?*

- Risk measurement
  *How should we use these weapons?*
    - Are there subject groups that are especially vulnerable?
    - Does risk increase dramatically after 15s?
    - What should officers be looking for?
Theme: **Reliability**

- What are the failure modes?
  - Gas discharge tube aging?
- What is weapon life span?
- Can we identify problem serial numbers?
- How often should we test?
Some of our tests
Some of our tests

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<th>Weapon</th>
<th>Battery(%)</th>
<th>Length(s)</th>
<th>PRF(1/s)</th>
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We need a standard for testing. It doesn't need to be complicated. It does need to be done soon.

- **Standard load**
  - $600\Omega$ - parallel network precision resistors
  - connected via cartridge
  - Firing sequence - multiple (10) shots

- **Parameters**
  - Pulse repetition freq
  - Main phase charge
  - Max current

- **Measure all pulses, take maximum**
Theme: *Research Plan*

- **Theme #1: models**
  - animal models of excited delirium
  - Electrical models and sensitivity
- **Theme #2: retrospective analysis**
  - regression analysis of police data

- **Important issues**
  - Need to improve trust police/academics
  - Research can't just focus on Taser. Goal has to be broad use of force.