1. A 34-year-old woman presents to the pain center with a history of idiopathic trigeminal neuralgia, migraine headache and depression. Six months ago, a neurologist prescribed carbamazepine for her trigeminal neuralgia and this has been helpful. Her migraine headaches have become frequent and severe enough to initiate prophylactic therapy, and the pain physician adds topiramate to her current medications. Which of the following significant drug level changes are **MOST** likely to occur due to the combination of oral carbamazepine and topiramate?  
   A. Decreased carbamazepine and increased topiramate  
   B. Increased carbamazepine and decreased topiramate  
   C. Unchanged carbamazepine and decreased topiramate  
   D. Decreased carbamazepine and unchanged topiramate

2. A 42-year-old woman comes to the physician because of diarrhea, abdominal pain, tremors, irritability, and fever for the past day. She has a history of chronic nonmalignant low back pain and was recently diagnosed with major depressive disorder. She has been taking tramadol 100 mg four times daily for the past month to control pain and recently began taking sertraline 50 mg at night. On questioning, she says that she also takes a number of herbal supplements. Temperature is 39.0°C, blood pressure is 160/100 mmHg, heart rate is 110 bpm, and respiratory rate is 28/min. Physical examination shows myoclonus and diffusely increased muscle tone. Which of the following herbal medications is **MOST** likely contributing to her symptoms?  
   A. Garlic  
   B. Gingko biloba  
   C. Kava kava  
   D. St. John’s wort

3. A 57-year-old man with history of hypertension, diabetes mellitus, obesity, and hypercholesterolemia is being considered for NSAID therapy for acute low back pain. The NSAID that carries the **LOWEST** risk for cardiovascular events is which of the following?  
   A. Celecoxib  
   B. Diclofenac  
   C. Ibuprofen  
   D. Naproxen
4. After a lateral medullary infarct, which areas will be MOST likely affected by central post-stroke pain syndrome?
   A. Bilateral lower limbs
   B. Ipsilateral face and body
   C. Contralateral face and body
   D. Ipsilateral face and contralateral body

5. Which of the following neurophysiological effects is MOST likely related to the performance of acupuncture?
   A. Release of endogenous opioids
   B. Inhibition of A and C afferent neurons
   C. Decrease in serotonin and norepinephrine
   D. Stimulation of central pain pathways
**ANSWER KEY**

1. C
2. D
3. D
4. D
5. A