

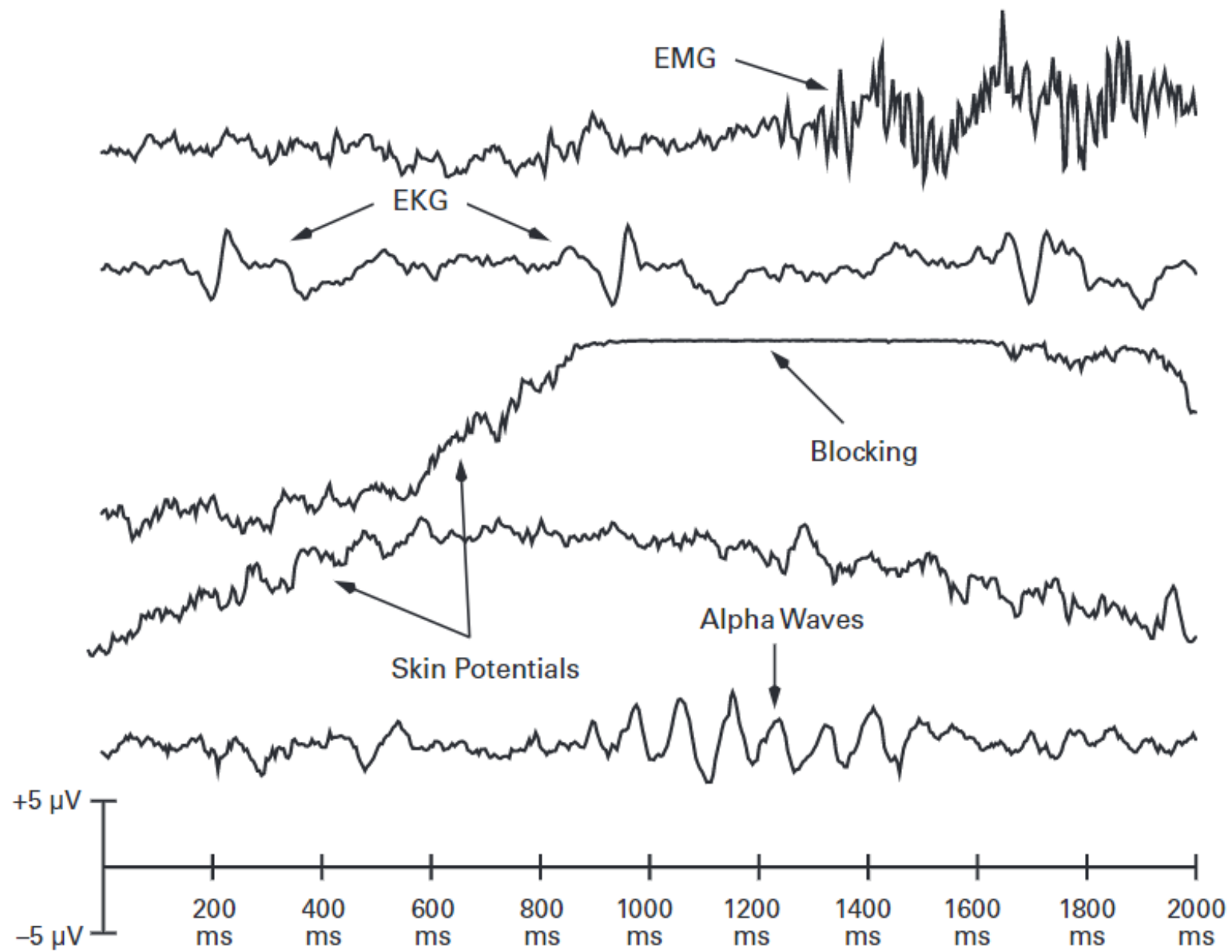


Chapter 6: Artifact Rejection and Correction Part 3

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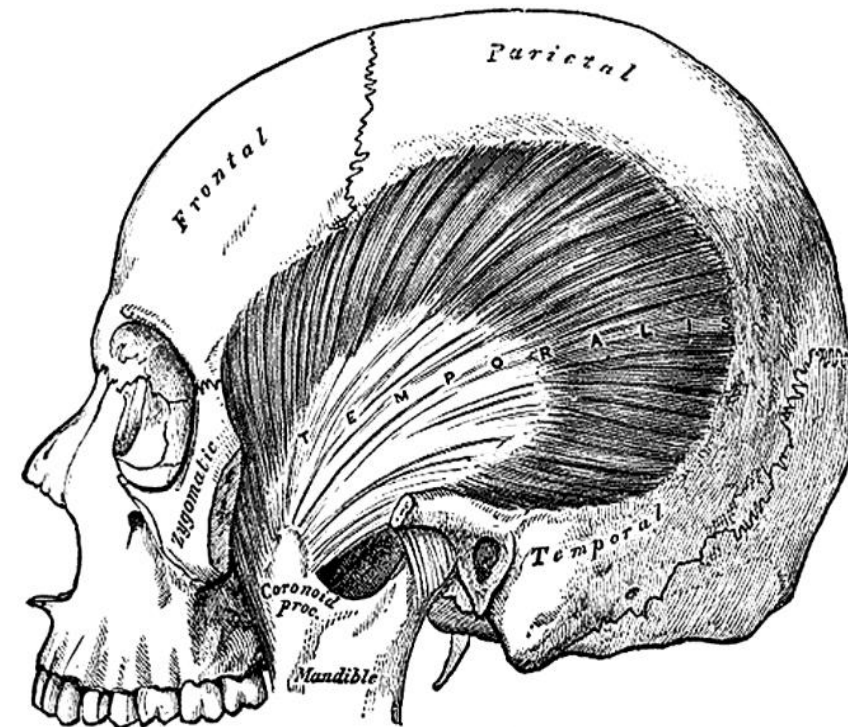
Alpha Waves

- *Alpha waves*
 - EEG oscillations at approximately 10 Hz
 - Typically largest at posterior electrode sites
 - Occur most frequently when subjects are tired or have their eyes closed
- Use well-rested subjects and give them interesting tasks to perform
- Include a jitter of at least ± 50 ms in the intertrial interval
- Not always noise
- May contribute to ERP effects in an important way



Muscle and Heart Activity

- *Electromyogram (EMG)*: Electrical potential created during the contraction of a muscle
- Temporalis muscle
- Muscles of the forehead
- Muscles of the neck
- Beating of heart (electrocardiogram, or EKG)

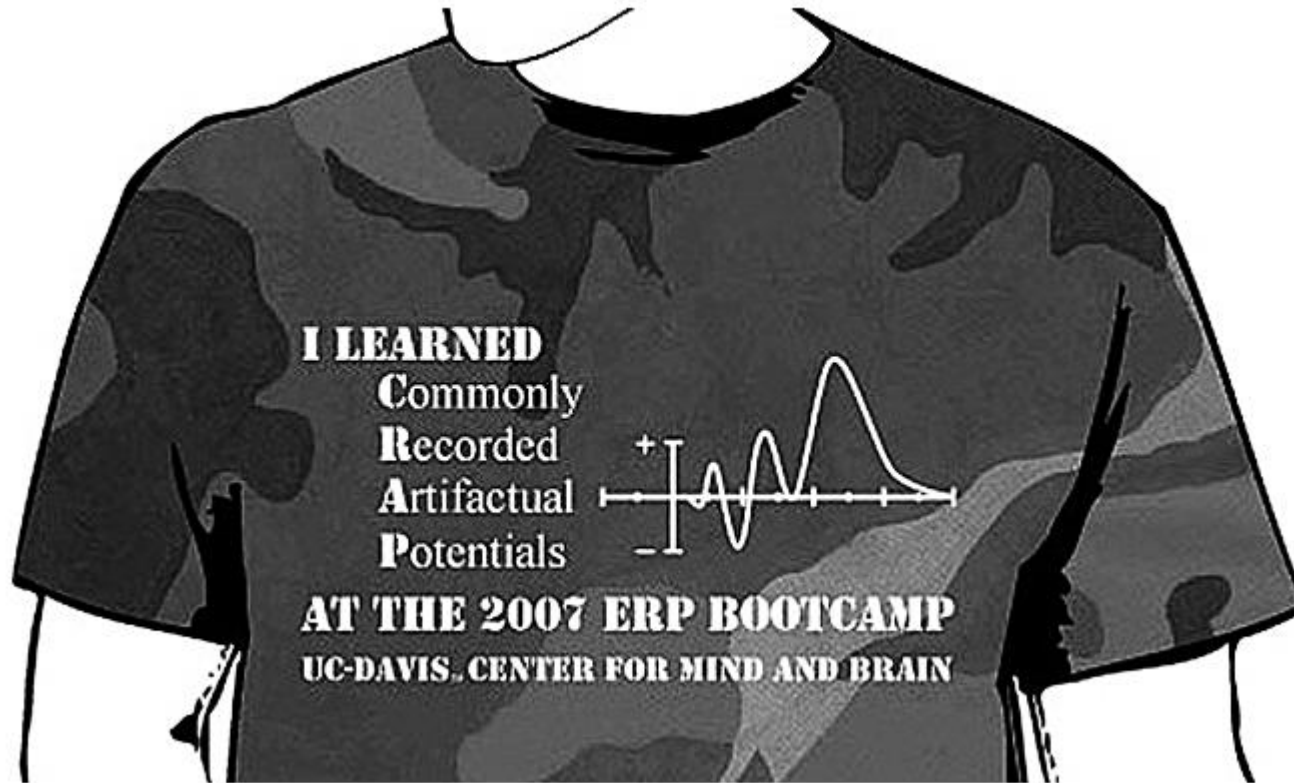


Speech-Related Artifacts

- *Glossokinetic artifacts*: When the tongue moves up and down in the mouth, it creates large voltages that propagate to the surface of the head

Sporadic Artifacts of Unknown Origin

- Commonly Recorded Artifactual Potentials (C.R.A.P)



Some Practical Advice about Artifact Rejection

1. Set the artifact rejection parameters individually for each subject
2. Look at the averaged ERPs to determine whether the rejection is working
3. Don't worry that you are reducing your SNR by rejecting trials with artifacts unless you are throwing out more than about 20% of your trials
4. Test for specific artifacts in the channels in which the artifacts are most easily observed & Test for C.R.A.P. in all channels
5. Keep track of the percentage of trials that was rejected & report
6. When excluding subjects, do this in a way that avoids biasing your results