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SAR, Scan Parameter, and Implanted Lead Effects: Practical Insights into MRI RF Safety

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RF-induced heating from implanted leads is a critical MRI safety risk, often poorly predicted by whole-body SAR. This presentation offers practical insights by focusing on $B1+rms$ as a more direct indicator of localized heating. We will analyze how key scan parameters—such as pulse sequence type and RF duty cycle—directly impact this risk. The discussion will provide guidance on adjusting these parameters to mitigate heating, while also exploring strategies to preserve the desired image contrast. The goal is to balance the critical need for patient safety with the requirements of diagnostic image quality.

Keywords: MRI, RF heating, Implant lead, $B1+RMS$, Scan parameter