Question III. (Laplace location problem).

$X_1, \ldots, X_n, \ldots$ iid $f(x) = \frac{1}{2} e^{-|x-\mu|}$ on $\mathbb{R}$; $(\mu \in \mathbb{R})$

Find an example of a sequence of estimators $\delta_n = \delta_n(X_1, \ldots, X_n)$ which are consistent for μ, but in which $E|\delta_n| \to \infty$. Randomized estimators are OK, but more points if you can make δ_n nonrandomized, and if you can make $E|\delta_n| = \infty \ \forall n$. Of course your example should be supported with explanations.