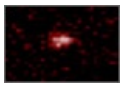
Using diamonds to treat drug resistant cancer.

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When a cancer becomes resistant to chemotherapy, the patient's prognosis worsens. Overcoming drug resistance is key to improving patient survival. Recent studies have shown that improving drug delivery may prove a key step in fighting certain resistant cancers, such as recurrent breast and liver cancer. Researchers have discovered that complexing nanodiamonds (ND) with the chemotherapy drug doxorubicin (Dox) decreases tumor growth and increases cancer cell apoptosis (natural cell suicide) in mouse models of liver and mammary carcinomas. Today, Dox is delivered without being conjugated with ND. Although often effective, Dox can cause serious toxic side effects, including heart damage. In addition to improving anti-cancer therapy, complexing ND with Dox appears to reduce the toxic side effects.

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