



nature publishing group



► **COVER:** 'Small and perfectly formed' by Natasha Wallington (natashawallington@yahoo.co.uk), inspired by the review on p688.



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A constant challenge when developing cancer therapies is to effectively eradicate cancer cells but minimize side effects. In addition, the increased numbers of cancer survivors has highlighted the need for reducing or preventing the late, as well as immediate, side effects of cancer therapies.

Two Reviews in this issue discuss the side effects of cancer therapy and the possible strategies for reducing such effects. On page 702, Søren Bentzen documents the late side effects of radiation therapy, which might affect the quality of life of patients who are long-term cancer survivors. Several pharmacological strategies for preventing or reducing these effects are discussed, but much remains to be learnt about this field. In addition, new drug-delivery strategies might help to reduce the side effects that patients endure after chemotherapy. Ruth Duncan (page 688) describes the polymer conjugate class of nanomedicines, and discusses how these biodegradable polymers can help selectively target drugs to tumour cells.

We are now finding that targeted therapies, designed to have minimal side effects, often do cause their own unique problems. The small-molecule inhibitor imatinib mesylate (Gleevec) is an effective therapy for chronic myeloid leukaemia and is thought to have minimal side effects. However, as we highlight on page 655, some patients develop congestive heart failure after taking this drug.

Although we are learning more about the possible side effects of radiotherapy, chemotherapy and targeted cancer therapies, the challenge now is to develop innovative strategies to combat these effects. At the same time, we must be vigilant for emerging side effects of new cancer therapies, especially late effects, as so many of these therapies are enabling patients to survive for longer.

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