

Dr Michelle Lockley



Research Interests

Oncolytic viruses

I aim to unlock the clinical potential of oncolytic viruses, which has been limited by inflammatory toxicity following systemic delivery. We found that these toxicities can be reduced by inhibition of $\beta 3$ integrin, a cell surface signalling protein, without compromising anticancer activity. We are now combining anti-cancer viruses with immune-modulatory therapies to improve efficacy.

Chemotherapy Resistance

High grade serous cancer (HGSC), the most common subtype of ovarian cancer, is initially very responsive to chemotherapy. More than 70% patients develop chemo-resistance and the disease becomes incurable. Finding treatments for these women is a major unmet clinical need. We have created a panel of chemo-resistant HGSC cells and will screen them in a compound library of existing drugs to identify new treatments.

Tissue Collection

I set up and continue to lead the **Barts Gynae Tissue Bank**, This repository of tissue kindly donated by Barts patients is widely used by scientists at the BCI and elsewhere.

Major Funders

- CR-UK Clinician Scientist Fellowship 2011-2016 £852, 327
- Barts and The London Charity 2015-2018 £197,000

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Recent Publications

- Beta3 integrin inhibition reduces the inflammatory toxicities induced by oncolytic adenovirus without compromising anticancer activity. Browne AK, Tookman LA, Ingemarsdotter CK, Bouwman RD, Pirlo K, Wang Y, McNeish IA, **Lockley M**. *Cancer Res.* (Accepted for publication May 2015)
- Chemotherapy Response Score (CRS): Development and validation of a system to quantify histopathological response to neoadjuvant chemotherapy in high-grade serous tubo-ovarian carcinoma. Böhm S, Faruqi A, Said I, **Lockley M**, Brockbank E, Jeyarajah A, *et al.* *J Clin Oncol.* (Accepted for publication Mar 2015)
- Paclitaxel resistance increases oncolytic adenovirus efficacy via upregulated CAR expression and dysfunctional cell cycle control. Ingemarsdotter CK, Tookman LA, Browne AK, Pirlo K, Cutts R, Chelela C, Khurram K, Leung E, Dowson S, Webber L, Khan I, Ennis DP, Syed N, Crook TR, Brenton JD, **Lockley M**, McNeish IA. *Mol Oncol.* (2014) 4: 791-805
- The Peritoneal Tumour Microenvironment of High-Grade Serous Ovarian Cancer. Leinster D A, Kulbe H, Everitt G, Thompson R, Perretti M, Gavins F, Cooper D, Gould D, Ennis DP, **Lockley M**, McNeish IA, Nourshargh S, Balkwill, FR. *J. Pathol.* (2012); 227: 136-145