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## SYMPOSIUM: THE HISTORY OF THE FIRST IVF BIRTHS

# The Oldham Notebooks: an analysis of the development of IVF 1969–1978. I. Introduction, materials and methods

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Kay Elder joined Bourn Hall in 1984 as Clinical Assistant to Patrick Steptoe, directing the Out-Patient Department from 1985 – 1987. Her scientific background as a research scientist at Imperial Cancer Research Fund prior to a medical degree at Cambridge University naturally led her to Bob Edwards and the IVF laboratory, where she worked as a senior embryologist from 1987. A programme of Continuing Education for IVF doctors, scientists and nurses at Bourn Hall was established in 1989, which she directed for 16 years. During this period she also helped to set up and run two Master's degree programmes in Clinical Embryology, and she continues to mentor and tutor postgraduate students of Clinical Embryology at the University of Leeds. In her current role as Senior Research Scientist at Bourn Hall she co-ordinates research collaborations with the MRC Laboratory of Molecular Biology in Cambridge and the MRC National Institute for Medical Research in Mill Hill.

**Abstract** In this introductory paper, we describe the primary source material studied in this Symposium, namely a set of 21 notebooks and 571 pages of loose sheets and scraps of paper, which, on cross-referencing, have allowed us to reconstruct the sequence, timing and numbers of the laparoscopic cycles planned, attempted and undertaken between 9 January 1969 and 1 August 1978 by Robert Edwards, Patrick Steptoe and Jean Purdy in Oldham, UK, as well as to identify most of the patients involved. In addition, we describe the background to the five papers that follow, and the secondary sources and recorded interviews, which have provided useful ancillary material.

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**KEYWORDS:** Edwards, Steptoe and Purdy, history of IVF, laparoscopy, Oldham

## Introduction

Louise Joy Brown was born on 25 July 1978. This event generated international excitement then, and its wider impact on science, medicine, and society in general continues to reverberate (Franklin, 2013). Little historical

research has been undertaken on the work conducted in Oldham and Cambridge that led to this birth, other than that concerning its very early stages up to 1972 (Johnson, 2011; Johnson et al., 2010). Our main sources of information about the later (1972–1978) work come from the scientific writings and lectures of Edwards and Steptoe, and from their

<http://dx.doi.org/10.1016/j.rbms.2015.04.001>

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narrative account, *A Matter of Life* (Edwards and Steptoe, 1980), which conveys the atmosphere of events from 1968 to 1978, but which contains several internal contradictions and inaccuracies.

The historical background to the evidence described in this series of papers draws largely on Johnson et al. (2010) and Johnson (2011). Thus, Johnson (2011) examines how and where Edwards and Steptoe first met in February of 1968 (p. 254–256) and when Purdy joined Edwards (p. 252). Prior to the meeting of these three, Edwards' primary interests lay in the study of the genetic basis of developmental diseases (p. 250–251), and of their possible alleviation by pre-implantation genetic diagnosis (p. 253 and Theodosiou and Johnson, 2011). These were the main reasons for studying the timing and control of oocyte maturation and IVF given by Edwards (1965) in his *Lancet* paper. It seems clear that infertility treatment only moved higher up Edwards' interests after he met Steptoe, who had a long-standing interest in trying to understand infertility and to treat the infertile (Johnson, 2011, p. 254). Indeed, one of the reasons that Steptoe pioneered laparoscopy (Steptoe, 1967) was so that he could investigate possible causes of infertility less invasively than had hitherto been the case (in addition to providing a safer and less invasive sterilization procedure for those who wished to limit further child bearing). Indeed, it was the claim that he could assess the state of post-coital sperm in the oviduct after their recovery laparoscopically that first attracted Edwards to contact him, given that sperm capacitation was the problem foremost on Edwards' mind in 1967–1968 (Johnson, 2011, p. 255–256).

Johnson et al. (2010) covers the slightly later period of 1971–1972, in which Edwards and Steptoe were initially offered institutional support by the Medical Research Council (MRC) at the Northwick Park Clinical Research Centre (Johnson et al., 2010, p. 2162–2163), and then, after Edwards declined this offer in the mistaken belief that it signalled that the MRC would look favourably on a grant application for a major project, the pair were refused funding on ostensibly ethical grounds (Johnson et al., 2010, p. 2166–2168). This refusal had major consequences for the ethical approaches to their work taken subsequently by Edwards (Johnson and Elder, 2015a), as well as for how their research was funded (Johnson and Elder, 2015c).

The recent discovery of research notes from the period 1969 to 1978 amongst the papers of Edwards and at Bourn Hall Clinic has now enabled us to undertake an objective archival-based account of their work over this period. These research notes cover the period when Edwards, Steptoe and Purdy were working between Oldham and Cambridge, trying to tackle the complex issues and technical challenges involved in converting in-vitro fertilization into live births. In this paper, we describe the primary source material studied in these papers, namely a set of 21 notebooks, plus 571 pages of loose sheets and scraps of paper, which, on cross-referencing, have allowed us to reconstruct the sequence, timing and numbers of the laparoscopic cycles planned, attempted and undertaken between 1969 and 1978, and to identify the numbers of patients involved. This clinical work was undertaken at Oldham District and General Hospital (ODGH) and at the associated Dr Kershaw's Cottage Hospital, but much of the research material was

transported for examination to the Physiological Laboratory at Cambridge University (Johnson, 2011).

We also describe the secondary sources and recorded interviews which have provided useful ancillary material for the five papers that follow, each of which focuses on different aspects of the 10-year period:

1. the numbers of patient volunteers and treatment cycles involved and their clinical outcomes (Elder and Johnson, 2015a);
2. evidence relating to variations attempted in key aspects of the procedures in order to overcome the numerous technical, scientific, practical and logistic challenges faced (Elder and Johnson, 2015b);
3. how Edwards and Steptoe tried to address the ethical challenges that their work raised (Johnson and Elder, 2015a);
4. a reassessment of the role of Jean Purdy in the research (Johnson and Elder, 2015b);
5. evidence relating to the funding of the research, and how this funding was used (Johnson and Elder, 2015c).

Our analysis of the evidence has allowed us (i) to trace the evolution of the clinical and scientific steps that eventually led to the births of Louise Brown and Alastair Montgomery as a result of in-vitro fertilization and embryo transfer, and (ii) to provide a detailed account of some of the organisational, social, ethical and financial issues involved over this significant period of the history of IVF.

The remainder of this paper describes our primary and secondary source materials. We describe this archival material in some detail for two reasons: (i) because it is not yet clear that the material will ever be made available to scholars generally, and (ii) if it is, much of it will be embargoed until 2069 to 2078, as containing identifiable and sensitive patient reproductive information. Those whose primary interest is in the content of the material can move to papers two to six in the series and treat this paper as reference resource where needed.

## Materials and methods

### Clinical and laboratory data from Oldham

The clinical and scientific data for the papers in this series were abstracted from documents, all of which are now lodged temporarily and securely for the family of Bob and Ruth Edwards in the Churchill Archives Centre at Churchill College, Cambridge. Wherever these papers finally come to be held, if they do become generally available, part of the archive is likely to be embargoed for 100 years, containing as it does identifiable patient reproductive information. The extracted, collated and anonymized data used in these papers will be available with the archive for access by other researchers, and is attached as supplementary material here (Suppl. Table) and to the next paper (Elder and Johnson, 2015a). Two main sources of data have been summarized and analysed, the contents of which are now described. Throughout, all names of patients have been removed, unless they are already in the public domain.

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