Man Against Machine?

Ensuring the future of Clinical Skills

Andrew Elder
Consultant in Acute Elderly Medicine
Medical Director MRCP(UK)
Nominative Determinism

<table>
<thead>
<tr>
<th>Name</th>
<th>Occupation</th>
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<tbody>
<tr>
<td>Andrew Elder</td>
<td>Elderly Care Physician</td>
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<tr>
<td>Professor Nutt</td>
<td>Psychiatrist</td>
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<tr>
<td>Judge Judge</td>
<td>Judge</td>
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*Pelham et al.*  
*Why Susie sells seashells by the seashore: implicit egotism and major life decisions.*  
*J Pers Soc Psychol. 2002 Apr;82(4):469-87*
The Urethral Syndrome: Experience with the Richardson Urethroplasty

A. J. SPLATT and D. WEEDON
Royal Brisbane Hospital, Brisbane, Australia

(Received 3 August 1976, accepted for publication 14 December 1976)

The problem of recurrent dysuria in females, which has been attributed to the so-called urethral syndrome, is a major one. Even though complete retention of urine in females is uncommon, it is likely that less marked bladder outflow obstruction occurs frequently. Although our experience with urethral dilatation and urethrotomy was that most of our patients gained only temporary relief from symptoms, we felt that it did give testimony to the existence of bladder outlet obstruc-
This talk

• A clinical case, and the concern it raises

• Three questions to consider

• Some of my views about these questions

• Some of your views about one of these questions
Missed Diagnosis

- 31yr old woman with Trisomy 21
- Known bicuspid Aortic Valve
- Staph. Aureus bacteraemia; systolic murmur; small vegetation on AV on echo
- Treated for endocarditis
- Fever, CRP not settling on intensive antibiotics.
- Murmur unchanged, PR interval OK, but suspicion of aortic root abscess on TOE.
- Decision – AVR
- In theatre.................
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A loss of balance?

**PHYSICAL EXAMINATION**
- Accuracy and value underestimated
- Does not harm the patient
- Has limited added cost
- Being done less and less

**INVESTIGATIONS**
- Accuracy and value overestimated
- Can harm and can kill
- Have substantial added costs
- Being done more and more
This talk - three questions to consider

- Is physical examination in decline in the UK?
- Are we overly reliant on investigations?
- If it is and we are, does it matter?
Stanford University
Why I went to Stanford

Abraham Verghese

The Stanford 25

Stanford PACES = sPACES
There is no equivalent to PACES in the US Internal Medicine Training System
Physical Examination Skills in the USA have declined.

"The mean score for full-time faculty (FAC) was not significantly different from that of medical students."

Competency in Cardiac Examination Skills in Medical Students, Trainees, Physicians, and Faculty: A Multicenter Study Arch Intern Med. 2006;166(6):610-616. doi:10.1001/archinte.166.6.610
The iPatient
The way we teach and learn

The iPatient

The Simulated Patient

Elder et al; The Road Back to the Bedside; JAMA September 2013
A downward spiral

Assessed less

Practised less

Taught less

“A multi-generational problem”
Why a decline in physical examination skills matters

Humanistic elements of patient care undermined

•

•
Clinical Skills take us to the bedside

That’s where the patient is
Why a decline in physical examination skills matters

Humanistic elements of patient care undermined

A valuable diagnostic resource is lost
Diagnostic Value of Physical Examination

- 100 general medical admissions

- Retrospective expert panel review
  - 26% of cases had “pivotal” physical examination findings = those which substantially changed diagnosis and treatment in hospital
  - Only 50% of these were “discoverable” = subsequent investigation would probably have led to the correct diagnosis even if the signs had not been found.

Why a decline in physical examination skills matters

- Humanistic elements of patient care undermined
- A valuable diagnostic resource is lost
- Changes how doctors think, undermines clinical judgement, fuels “test driven” medicine.
Assessing a patient – the old way

History and Examination → Tests
Assessing a patient – the new way

History and Exam → Tests
“Test Driven” Medicine - USA

- Fear of litigation
- Patient expectation
- Reimbursement
- Technophilia
- Clinical skills in decline
“Just say don’t…..”
Is this happening in the UK?
Do we do too many investigations?

The acute admitting unit I work in uses investigations to assess patients......

- More frequently than is necessary for good patient care: 73.6%
- Appropriately for good patient care: 20.4%
- Less frequently than is necessary for good patient care: 5.9%

Patient contact at UK Medical Schools

“He who studies medicine without books sails an uncharted sea, but he who studies medicine without patients does not go to sea at all.”

Sir William Osler

Patient contact in mean of 80 of 220 weeks of UK UG degrees
Are physical examination skills declining in the UK?

60 in-patients referred to a UK teaching hospital neurology service by general physicians.

- 50% could not recall being examined using a tendon hammer
- 80% could not recall being examined using an ophthalmoscope

Nicholl et al. The TOS Study. *J R Coll Physicians Edinb* 2012
Do those practising acute take value physical examination?
Physical Examination in Practice

• N= 3412 , all grades, not the Americas
• All currently practising in all age unselected acute take
• Data presented today:
  – practising in UK, trainees.
What % of acute medical referrals require physical examination?

- **Targetted**
  - 75-100%: 93
  - 50-74%: 6
  - 25-49%: 1
  - 0-24%: 0

- **Top to Toe**
  - 75-100%: 55
  - 50-74%: 28
  - 25-49%: 11
  - 0-24%: 6

Elder et al: Physical Examination in Practice Unpublished

n = 884 UK trainees
What practising clinicians think

In comparison to the history how valuable is physical examination in the assessment of acute medical referrals?

- Much more Valuable: 10
- Slightly more Valuable: 10
- About the same value: 42
- Slightly Less Valuable: 28
- Much Less Valuable: 10

Elder et al: Physical Examination in Practice Unpublished
n = 884 UK trainees
Which parts of the physical examination are most/least helpful?

From a basket of 58 specific physical examination manoeuvres

<table>
<thead>
<tr>
<th>Top 5 Most Helpful</th>
<th>Bottom 5 Least helpful</th>
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<tbody>
<tr>
<td>Conscious level using a structured scale (GCS)</td>
<td>The character and location of the apex beat</td>
</tr>
<tr>
<td>Heart rate and rhythm by arterial palpation</td>
<td>Palpating for thrills and heaves</td>
</tr>
<tr>
<td>Auscultation for murmurs</td>
<td>Abdominal examination for renal masses</td>
</tr>
<tr>
<td>Postural blood pressure</td>
<td>Conjunctivae for pallor</td>
</tr>
<tr>
<td>Capillary refill time</td>
<td>The character of the JVP</td>
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“Helpful” = frequently used, trusted, contributes.

Elder: Physical Examination in Practice Unpublished  
n=884 UK Trainees
Principles of teaching CS

- Involve Real Patients
- Directly Observe Trainees
- Integrate bedside teaching into clinical work
- Demonstrate how you do it, how you use it

Elder et al; The Road Back to the Bedside; JAMA September 2013
Direct Observation

On how many occasions per week on are the physical examination skills of a FY/CMT level trainee directly observed by a consultant?

Elder: Physical Examination in Practice Unpublished
Demonstration

On how many occasions per week does a consultant demonstrate their technique in any component of the physical examination to FY/CMT trainees?
Is there a downward spiral in the UK?

- Assessed less
- Practised less
- Taught less
Assessment Drives Learning - The Educational Impact of PACES

PACES

Trainees
- Practice CS
- Courses On CS
- Books On CS

Trainers
- Teach CS
- Learn to assess CS
- “Collect” Patients
Summary

• UK trainees doing the acute take do still appear to find physical examination valuable

• Strong bedside skills may help reduce overreliance on investigations

• Bedside skills have been a traditional strength of UK medicine and medical training

• We all must work to ensure that UG and PG training structures and environment allow us to teach and assess bedside skills robustly