Using technology to improve practice management

Professor Robert Dunn

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Head: Division of Orthopaedic Surgery
Groote Schuur Hospital • Red Cross Children’s Hospital • UCT Private Academic Hospital
disclaimer

Academic trying to balance

service
research
teaching / training

and private practice

Demands efficiency
My view on IT ...

Great hobby

Great when useful ... but don’t let it get in the way

Use it to be more efficient not less so
Wide view on IT use ....

- communication

- Collegues
- Staff
- Patients
- One to one
- One to many
Wide view on IT use ....

communication

Data keeping

Record keeping
Patient data for research
Wide view on IT use ....

communication

Data keeping

Financial software

Practice management
Wide view on IT use ....

- Communication
- Data keeping
- Day to day tasks
- Useful apps
- Practice management
communication

Colleagues
medical interaction
Whatsapp great for (responsible) groups but some confidentiality concerns....
Medical referral based systems ....
Spontaneous onset

History
31 year old female previously well. Now: spontaneous onset right wrist pain 1/7 maximal over ulna styloid.

Examinations and treatment so far

Other medical conditions or medication
previously well.

Clinical question
Good day Nico. Discussed this patient with consultant here. Said we need to exclude septic arthritis-nil tachycardia, apyrexial, joint warm to touch. Please see pictures attached. Examination recorded. Monoarthitis: septic arthritis vs gout vs alternate Dx? Patient require in-patient work-up/management for septic arthritis? Thanks Lyndon.

Chat history

Nico Botma
Hi Lyndon. Thank you for the referral. Do you have any blood results, supporting a diagnosis of septic arthritis? (WCC, ESR, CRP)
16 Aug 18 - 09:12AM

Lyndon Reeve
Unfortunately not. At Hanover Park CHC bloods off-site and only collected at end of day
16 Aug 18 - 09:14AM

Lyndon Reeve
Results would be out tomorrow if we do them today however
16 Aug 18 - 09:15AM

Nico Botma
Suggest you do the bloods today and follow up results tomorrow
16 Aug 18 - 09:23AM
communication

Colleagues (staff)
logistic communications
New Appointment

Orthopaedist: Robert Dunn

Patient: Pullicino RA - cervical anterior and posterior cervical decompression and instrumented fusion

Meeting Details:
- **Attendee responses:** 2 accepted, 0 tentatively accepted, 0 declined.
- **From:**
  - Female
  - Male
  - Not specified
- **To:**
  - Janine Duplooy @netcare.co.za
  - Marie-Mari [3PPZA]
  - George Hartwicke@gmail.com
  - Lucy Pullicino@gmail.com
- **Subject:** Pullicino RA - cervical anterior and posterior cervical decompression and instrumented fusion
- **Location:** UCTPAH
- **Start time:** Tue 31 Jul 2018 02:00 PM
- **End time:** Tue 31 Jul 2018 07:00 PM

Additional Notes:

- See week before for consent
- See Dr. Symons asap
- Mountaineer posterior cervical set - Jul - 20 screws 2 rods (max)
- Anterior cervical cages x 2
SMS from mobile gives away your number

www.winsms.co.za

Single or bulk
Schedule delivery

Confirm appointments
Send results

They can reply
Can be set up to forward to mobile / email

Email for longer conversations
I avoid phone calls ....
WeSendit.com now with an improved responsive version for smartphones and tablets!

At WeSendit.com, we've made great improvements to our smartphone and tablet version, so that you can send and receive data easily, securely and fast, even on the go.

- Easier mobile user interface
- Better overview of selected data
- Data access from all your apps and galleries

Give WeSendit.com a try on your smartphone or tablet.

Enjoy!

Sending large files ... imaging
Or shared folders / files on [www.dropbox.com](http://www.dropbox.com) but seems to confuse the oldies
One to many ...
Pre-operative counselling

Discussion of risks and benefits

Explantion of procedure and post-operative course

4 h
1-2
3-4
Wal
Pain
Scalp
4-6
Student and teaching videos ...
Newsletter management ...
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- **Successful deliveries**: 136 (75.1%)
- **Total opens**: 406
- **Last opened**: 8/11/18 8:09AM
- **Forwarded**: 0
- **Clicks per unique opens**: 89.5%
- **Total clicks**: 183
- **Last clicked**: 8/11/18 1:03PM
- **Abuse reports**: 0

**24-hour performance**

![Graph showing open and click counts over time]
## Opened

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<th>Last Name</th>
<th>Member Rating</th>
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<td>Jackson</td>
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<td>John</td>
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### Social performance

- **0** Retweets
- **1** Campaign URL click
- **0** Likes

### Top locations by opens

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<tr>
<td>Namibia</td>
<td>3</td>
<td>1.1%</td>
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</tbody>
</table>
Streaming Out – Adobe connect

Hemiplegia

- Clinical
  - Distal flexion contraction
    - Elbow, wrist, fingers, adducted thumb
    - Equinus and varus/valgus feet
East-London watching
Feedback to presenters - google forms

Most recent article referenced was 18 years old.

Relevant topic, thank you.

It is a good idea to get a guest lecturer to discuss...
Wide view on IT use ....

Record keeping
Patient data for research

Data keeping
Electronic data keeping

Commercially available software available

But costs money ... 

MS Word is a simple solution
Dear Dr. Fisher,

The patient had the surgery described below on 7/25/2021. He had a left total knee replacement by Mr. Mathew. He is doing well post-operatively and was discharged on 7/27/2021. He has been started on a physical therapy program and will be seen in the next few days. He has no limitations at this time.

Best regards,

[Signature]

Mr. Mathew
Speech to text

iOS
Dragon
Google
Too slow for me

I prefer digital Dictaphone
email voice files out
Word files come back
Adult male 35 y.o.
LBP → left leg pain
2
Store files on dropbox

Available on all devices
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13. CHECKLIST FOR HEALTH RECORD-KEEPING ................................ 7
12 RETENTION OF PATIENT RECORDS ON CD-ROM

12.1 Storage of clinical records on computer compact disc (CD-ROM) is permissible, provided that protective measures are in place:

12.1.1 Only CD-ROM technology that is designed to record a CD once only, so that old information cannot be overwritten, but new information can be added is used;

12.1.2 All clinical records stored on computer compact disc and copies thereof are to be encrypted and protected by a password in order to prevent unauthorised persons to have access to such information;

12.1.3 A copy of the CD-ROM to be used in the practitioner’s rooms will be in a read-only format;

12.1.4 A back-up copy of the CD-ROM must be kept and stored in a physically different site in order that the two discs can be compared in the case of any suspicion of tampering;

12.1.5 Effective safeguards against unauthorised use or retransmission of confidential patient information must be assured before such information was entered on the computer disc. The right of patients to privacy, security and confidentiality must be protected at all times.
issues

Alteration
Confidentiality
Retention

? Server site

But far less expensive than a physical folder for every patient

Great for (increasing) motivation requirements
Preservation

6 years after case dormant
Regular back-up and off-site storage
Professor Robert Dunn
Consultant Spinal and Orthopaedic Surgeon

3rd July 2018

Dear Dr. Pringle,

Thank you for your referral of this 42-year-old lady who presents with cervical myelopathy related to undiagnosed Klippel-Feil anomaly with long standing juvenile idiopathic arthritis.

Miss Pullicino relayed that around the age of 15 she developed tingling tinglings. She was managed at the Oxford University Hospital where she underwent a myelotomy. They noted her congenitally fused neck, putting her in a collar for two years and the tingling stopped. They concluded surgery but felt this was too dangerous.

In 2015 she felt that her neck had changed after the birth of her child. She felt that it had no formality and her fingers became tingling again.

She relocated to South Africa in September 2017 for her husband's work and plans to stay for three years.

Since then she has had some tingling in the fingers. From February, after the birth of their second child, she has had increased numbness of both hands, worse on the left with the thumb, index and middle finger, and then progressing to the other fingers in the upper limbs as well. She is finding increasing difficulty with buttons, writing and the motor co-ordination.

Her walking remains fine. Her bladder and bowel remains fine.

Past medical history: She has both had hepatitis 10 years ago, left leg in 2010 and both ankles seven years ago. She has no allergies, she is currently on Aricept, Luquetol and Candes.

On examination: Pleasant, small woman.

She has a small mouth when trying to open it.

She has 80% cervical rotation with a few degrees of flexion.

Neurological examination: She has normal sensation other than her finger tips.

It is difficult to assess power due to her joint involvement but definitely has weak grip strength bilaterally, right worse than left.

Her lower limbs seem to have normal power. She brisk knee reflexes, no ankle reflexes. Brachial plexus which may be affected by the surgery but she is not overly engaging.

Imaging reviewed on the Taft system:

Knee confirmed multilevel cervical degeneration with a Klippel-Feil from C2-3-4 and then more distally from T1-T2 and again from T6-7. She has marked canal stenosis from C5-6 with cord signal and again at T3-4. She has some mobility in the sub axial spine on the flexion extension views.

Assessment: Cervical myelopathy secondary to Klippel-Feil and JIA

CMT code: M80.0

Plan: I have explained the natural history is that of progressive myelopathy which will become irreversible and likely to render her markedly paraparetic.

She requires operative intervention.

I discussed this imaging with our Scoliosis Service meeting this morning prior to seeing her. She is challenging with a few technical options.

There is consideration whether she should have an anterior release to improve her posture and augment the fusion process and whether the full cervical spine should be fused or segmentally C5-6 and then more distally.

I have discussed the options with her, explaining that if we did not instrument the whole spine she will have some increased neuronal load but likelihood of progressive atrophy at those levels requiring further surgery later in life anywhere between five and ten years.

I will spend some further time considering the technical aspects.

They would like the surgery but there are some logistical issues around travelling to the UK in August.

We have tentatively booked her for the 12th September.

She will need to see Dr. Greg Symons prior to surgery as well as the anaesthetist to assess her intubation status.

Regards
I reviewed Mrs. Bullock today and explained the various options. Following extensive thought and discussion, we have decided to perform the posterior cervical fusion with maintaining some sub axial motion as shown.

I have explained the risks including death, blindness, paralysis, infection.

I have explained that she does not really have a choice as she has myopathy and deteriorating neurology. It has deteriorated further since last seen. She has new fasciculations in her hands and feels “like wood” when touching anything. She is finding it more and more difficult to use them.

She is for admission next Tuesday for the procedure that afternoon.
Prof Robert Dunn  
Consultant Spinal and Orthopaedic Surgeon

Admission Summary:

Name: [Redacted]  
Admitted: 31 July 2018  
Discharged: 7 August 2018

Diagnoses: Cervical myelopathy from unspecified and RA  
Therapeutic measures:

ICD10: M46.02 Q81.1 M48.04

Procedure: Posterior C2-4 and T3-4 decompression and instrumented fusion

Mrs Bullock was admitted for the above procedures which were performed that afternoon. There was an unexpected arachnoid cyst but after fibre-optic intubation, the surgery proceeded without incident.

Posterior trans-laminar screws were used in the C3-T3 area with lateral mass screws placed. The thoracic screws were then decompressed and pedicle screws placed.

Post-operatively she moved all limbs to command.

She was initially nursed in the ICU before de-escalation to the ward.

There was rapid improvement in her neurological symptoms.

X-rays (UCT) confirmed acceptable implant placement.

Drain, catheter and drip were aspirally removed.

She mobilised rapidly all things considered.

Her wound remained clean and dry.

She was discharged home for follow up in 6 weeks.

Yours sincerely
Spinal Surgery Episode
31 July 2018

Diagnosis:
Central Incisional and Spinal Cord

Indications:
Preventive CSF leak and decompression of neural structures

Operation:
Posterior C5-6 and T1-4 decompression and instrumentation fusion

Surgery:
Dunn

Assisted by:
RHS

Anesthetist:
Robert Dunn

Approach:
Posterior

Procedure:
Decompression

Findings:
C2-4 decomposed. Normal level confirmed on lateral view.
C2-4 levels were identified and tissue decompressed.

Notes:
Wound clean and dry. No drainage. No complications.

Closure:
1, 2, and 3-0 Vicryl

Follow-up:
Regular

Postop:
ICU - one hourly neuraxial block x 24 hrs
Gelatine x 24 hrs

Discharge:
When patient allows

Onset of pain:
"NURSING"
Record keeping
Patient data for research

Data keeping
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<th>Date</th>
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<td>Posterior T1 - S decompression with open decompression (VI)</td>
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<td>04 Aug 2010</td>
<td>Revision posterior T5 corpectomy and iliac strut graft</td>
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</table>

**Consultation Episodes**

03 Sep 1995

**Post TB myelopathy VCR**
Diagnosis: Post TB kyphosis and myelopathy

Indications: Progressive myelopathy

Operation: Posterior T1 - T9 corrective fusion with apical decompression (VCR)

Surgeon: Dunn
Assistant: McColllum / Hugo
Anaesthetist: Falanga / Llewellyn

Stage: Single stage
Graft: Autograft - local
Levels: T1 to T9

Setup: Prone, MEP needles inserted.

Findings:

Procedure: T1 - T9 exposed using AP image to identify T1. Unable to visualise adequately on lateral.

Screws placed into T1 and T2 and what was counted as T7 and T9, all good on probing lateral image.

Multilevel laminectomies performed. A single root sacrificed on left and two on right. Pedicles delineated and cored out. Slip with and on right at T4 pedicle. Slipped medially but no patient movement, no autonomic changes and MEP's unchanged.

Apex resected with curette and upcuts. Thacoal sac fell forward. Initially no distal pulsation but this improved with decompression. 11mm Trendelenburg, anterior and correction performed.
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<td>Posterior C5 - T6 instrumented fusion / left costotransverseectomy (3 ribs)</td>
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<td>08 Jul 2016</td>
<td>4.5</td>
<td>M4.04</td>
<td>TB spine</td>
<td>Posterior T1-T8 instr fusion with costotransverseectomy and strut graft</td>
</tr>
<tr>
<td></td>
<td>14613629</td>
<td>01 Jun 2016</td>
<td>8.7</td>
<td>M5.09</td>
<td>T3 TB with myelopathy and kyphosis</td>
<td>Posterior T1-6 instrumented fusion with left costotransversectomy / decompression</td>
</tr>
</tbody>
</table>
# Patient scoring database

<table>
<thead>
<tr>
<th>Dates</th>
<th>Scores Available</th>
</tr>
</thead>
<tbody>
<tr>
<td>16-Mar-06</td>
<td>Pre Op</td>
</tr>
<tr>
<td>06-Jul-06</td>
<td>Post Op</td>
</tr>
</tbody>
</table>

(c) Dr R. Dunn 2006
Integrate into work flow to improve compliance

Biggest loser
Most minutes in theatre
Log book ....
And others ....
And others but at a price ....

On the cloud
SNAPSCAN FOR BUSINESS

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SIGN UP YOUR BUSINESS  DOWNLOAD TO PAY
Useful apps

Day to day tasks
Get together with Doodle for free

The simple way to decide on dates, places & more.

What's the occasion? Create Doodle poll

<table>
<thead>
<tr>
<th></th>
<th>Aug 20</th>
<th>Aug 21</th>
<th>Aug 23</th>
<th>Aug 26</th>
<th>Aug 30</th>
<th>Sep 4</th>
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</thead>
<tbody>
<tr>
<td>Tom</td>
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<tr>
<td>Emma</td>
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<td>✔️</td>
<td>✔️</td>
</tr>
</tbody>
</table>

Compare availability to find the best time for everyone to meet.
Empowering secure remote desktop access and support

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SEE PRICING for businesses
Allows “running” software not compatible with iOS
EMGuidance

Home

Medicines  Guidelines  Tools  Care Coord

Allergy

Anæsthesia/Sedation

Anæsthesia

Antimicrobials

Asthma/Pulmonary

Cardiology

Coughs/Colds

Home

Medicines  Guidelines  Tools  Care Coord

ABC² Score for TIA

ABSI (Abbreviated Burn Severity Index)

APGAR

CHA²DS₂-VASc Score for Atrial Fibrillation Stroke

CURB-65

GCS Adult (Glasgow Coma Scale)

GCS Paediatric (Glasgow Coma Scale)

Groote Schuur Hospital

Diabetics Clinic

ENT Clinic

G.I.T. Clinic

General Surgery Clinic

NEXUS (C-Spine Imaging)

Focal Neurologic Deficit Present

Midline Spinal Tenderness Present

Altered Level of Consciousness Present

Score 2

If any of the above criteria are present, the C-Spine cannot be cleared clinically by these criteria. Consider Imaging.

Venue: Out patient building, GSH, G floor

Time: 9-12 am, Every Tuesday except public holidays. Patients need to arrive early as need to be processed by clerks. It is run on a first come first serve system with patients arriving before 7 am when the OPD doors open.

Which patients do we see?

All surgery, except:

- Breast complaints - send to Friday Breast clinic
- Thyroid/hyperthyroid clinic
- Oncology Endocrine Surgery Clinic Wednesday
- Peri-anal complaints (until we have adequate equipment to examine the anus). These patients are seen at E22 colorectal
- Hydradenitis suppurativa - abscess refer c15, chronic - refer dermatology
- No urology or gynae pathology
Bubble level

$x=2.8^\circ$