Enhancing Communication on Rounds

Christopher S Parshuram MBChB DPhil.

staff physician Critical Care Program senior scientist Child Health Evaluative Sciences Program. Hospital for Sick Children. director Centre for Safety Research. Early Researcher Award recipient, Ontario Ministry of Research and Innovation. associate professor Interdepartmental Division of Critical Care Medicine & Departments of Paediatrics & Health Policy, Management and Evaluation. director of paediatric research Patient Safety Centre, Faculty of Medicine, Univeristy of Toronto, Canada.
disclosures

no relevant disclosures
rationale for rounds

complexity -> shared decision-making
to share and validate ideas, plans, & actions

volume -> improved outcomes?
too much data for one person to ‘manage’

efficiency -> continuity in absentia
we get tired & need to go/leave & when others actually do the work

speciality -> centres of excellence
overlapping (& non-overlapping expertise)
Impact of intensive care unit admission during morning bedside rounds and mortality: a multi-center retrospective cohort study

Ivens Augusto O de Souza¹, Constantine J Karvellas², RT Noel Gibney² and Sean M Bagshaw²*
## rounds must be important

like weekends..

do rounds simply distract us from patient care?

<table>
<thead>
<tr>
<th></th>
<th>hospital</th>
<th>ICU</th>
</tr>
</thead>
<tbody>
<tr>
<td>during round</td>
<td>491 (23.9%)</td>
<td>315 (15.3%)</td>
</tr>
<tr>
<td>not during rounds</td>
<td>3455 (20.6%)</td>
<td>1947 (11.6%)</td>
</tr>
</tbody>
</table>
what is/are ‘rounds’?

‘a clinical communication forum’

‘systematic review of a defined group of patients’

are to.... help the team care for the patient
better match need with care
help improve patient care......

rounds are what we make of them
communication

“exchange of information between a sender and a receiver.”

Salas et al. 1995

am I communicating now?

are we communicating?

please shake your head twice

so we are communicating now
### clinical service rounds...

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>6:30-6:40</td>
<td>phone rounds</td>
</tr>
<tr>
<td>6:45-7:25</td>
<td>pre-rounds 1:1 night-day nurse</td>
</tr>
<tr>
<td>7:30-7:40</td>
<td>xray rounds</td>
</tr>
<tr>
<td>7:40-8:50</td>
<td>bedside rounds</td>
</tr>
<tr>
<td>9-10:00</td>
<td>back patient-specific ed. rounds</td>
</tr>
<tr>
<td>10:30-11</td>
<td>ECMO-CVVH rounds</td>
</tr>
<tr>
<td>15-16:00</td>
<td>shortbread rounds (Thursday)</td>
</tr>
<tr>
<td>16-17:00</td>
<td>sign-out rounds</td>
</tr>
<tr>
<td>20-20:30</td>
<td>night-time rounds</td>
</tr>
<tr>
<td>23:00</td>
<td>phone rounds</td>
</tr>
</tbody>
</table>
elements of rounds

1 purpose
2 place
3 people / participants
4 roles
5 duration / time
6 output

Nothing is so simple that it cannot be misunderstood.

Freeman Teague, Jr.
repetition

Nothing is so simple that it cannot be misunderstood — Freeman Teague, Jr.

repetition has value

required if individual knowledge is to be shared
mechanism of continuity & individual memory
required to close the ‘loop’ communication
but how much repetition? verbally & written documentation
## CPRounds Perspective

<table>
<thead>
<tr>
<th><strong>phone in</strong></th>
<th>re-align thoughts, surprise mitigation, early response</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>pre-rounds</strong></td>
<td>direct report, concerns plans/ expectations</td>
</tr>
<tr>
<td><strong>xray rounds</strong></td>
<td>&gt;timely line &amp; tube adjustments, pre-extubation rv</td>
</tr>
<tr>
<td><strong>bedside rounds</strong></td>
<td>obtain multiple perspectives, additional data, framed and re-framed for team</td>
</tr>
<tr>
<td><strong>back education</strong></td>
<td>education, opp. to reinforce ‘teachable moments’, reflect on challenging cases, seek secondary input. QControl</td>
</tr>
<tr>
<td><strong>ECMO-CVVH shortbread</strong></td>
<td>focussed technology specific rounds, pre-co-ordinated multi-team activity. to make plans.</td>
</tr>
<tr>
<td><strong>sign-out</strong></td>
<td>we are social animals with rumbling stomachs</td>
</tr>
<tr>
<td><strong>night-time</strong></td>
<td>update on events of the day, report back from tasks (results, consultant opinion, bookings). plans for night</td>
</tr>
<tr>
<td><strong>phone in</strong></td>
<td>reminder of goals &amp; tasks, enforced review of all patients,</td>
</tr>
<tr>
<td></td>
<td>update, questions, re-iteration of goals &amp; plans</td>
</tr>
</tbody>
</table>
## fellow rounds perspective

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phone in</td>
<td>inconvenient call in interrupts preparation for am</td>
</tr>
<tr>
<td>Pre-rounds</td>
<td>opportunity for staff to undermine the round</td>
</tr>
<tr>
<td>X-ray rounds</td>
<td>tube and line adjustment</td>
</tr>
<tr>
<td>Bedside rounds</td>
<td>obtain multiple perspectives, additional data, framed and re-framed for team, opportunity to showcase.</td>
</tr>
<tr>
<td>Back education</td>
<td>education, learn showcase self. coffee</td>
</tr>
<tr>
<td>ECMO-CVVH</td>
<td>focussed plans for the circuit</td>
</tr>
<tr>
<td>Shortbread</td>
<td>food</td>
</tr>
<tr>
<td>Sign-out</td>
<td>update plans for night, conflicts with admissions</td>
</tr>
<tr>
<td>Night-time</td>
<td>reminder of goals &amp; tasks, review all patients, distraction from actual work</td>
</tr>
<tr>
<td>Phone in</td>
<td>update, questions, re-iteration of goals &amp; plans</td>
</tr>
<tr>
<td><strong>nurseRounds perspective</strong></td>
<td></td>
</tr>
<tr>
<td>-----------------------------</td>
<td></td>
</tr>
<tr>
<td><strong>phone in</strong></td>
<td>(source of rapid requests / orders)</td>
</tr>
<tr>
<td><strong>pre-rounds</strong></td>
<td>opportunity to contribute, another interruption</td>
</tr>
<tr>
<td><strong>xray rounds</strong></td>
<td>not involved (source of urgent ETT adjustments)</td>
</tr>
<tr>
<td><strong>bedside rounds</strong></td>
<td>understand night fellow &amp; team perspective(s), share information, influence &amp; know Rx &amp; Ix &amp; strategies</td>
</tr>
<tr>
<td><strong>back education</strong></td>
<td>time of limited physician availability, peak of medication administration.</td>
</tr>
<tr>
<td><strong>ECMO-CVVH shortbread</strong></td>
<td>technology focused rounds to address specific issues</td>
</tr>
<tr>
<td><strong>sign-out</strong></td>
<td>main presenter to group, opportunity for input to discussion- ask specific questions. physician repetition</td>
</tr>
<tr>
<td><strong>night-time</strong></td>
<td>revisit goals &amp; tasks</td>
</tr>
<tr>
<td><strong>phone in</strong></td>
<td>not involved + room rounds, IP rounds, safety rounds</td>
</tr>
</tbody>
</table>
1 purpose

education & patient care
patient care & education
immediate patient care
information gathering, sharing, exchange
synthesis
to create a shared mental model
to plan & make decisions
purpose ~ value

value ‘helps me do my job’
  potential to improve care for my patient
  allows me to advocate for my patient

‘helps me achieve my objectives’
  opportunity to teach
  generic ‘learning’ -

continuing professional development
humiliation & respect
value for whom?

>the patient now + soon<

&

>future patients<

are your rounds provider or patient-centered?
2 participants

- child life specialist
- consultants
- dietician
- family member
- ethicist
- nurse
- observer
- occupational therapist
- patient
- perfusionist
- pharmacist
- physician
- physiotherapist
- professor
- respiratory therapist
- social worker
- spiritual provider
- students
multidisciplinary rounds

‘leadership’ intensivist, in charge RN, RT 3
physician fellows & residents 8
RN & RT from each patient 2
pharmacy ‘unit’ pharmacist(s) 1
dietician ‘unit’ dietician 1
physioth ‘unit’ / part unit 1
x 70 min

\[
\text{total person-hours} = 19h
\]

\[
\text{@ } $50/\text{person-hour} = $930
\]
participants ‘in character’

leader / manager
information recipients & donors
corrections & clarifications
initial & ‘the gold standard’ sources of data
discussant opinion & concern
how important defined roles vs. shared model
drug expertise in rounds

Pre-post study with concurrent control
adding ‘senior ICU pharmacist’ on rounds

fewer adverse drug events

fewer preventable adverse drug events

10.4 > 3.5 /10³    p< 0.001

Leape 1999 JAMA
‘rounds’ leadership styles

<table>
<thead>
<tr>
<th>Role</th>
<th>Description</th>
<th>Residents: most accurate presentations - well prepared, few hypotheses discussed</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Director</strong></td>
<td>directive, explicitly ‘in charge’ rounds stop in absence short &amp; efficient min. disagreement / harsh correction</td>
<td>Teaching: formal (didactic) defined moment RN attendance best</td>
</tr>
<tr>
<td><strong>Facilitator</strong></td>
<td>encourage discussion ward round continues if absent longest round validate information gentle correction</td>
<td>Residents: might not know all data, hypotheses raised residents &amp; staff. ‘organic’ problem solving. Teaching: problem-based. RN participation greatest</td>
</tr>
<tr>
<td><strong>Consultant</strong></td>
<td>observer, with ‘inner-team’ rounds continue if absent (fellow led) disagreement no interest / consensus resolution / strong statement secondary activities greatest</td>
<td>Residents: participation = level of interest-some try to gain entry to the “inner circle” Teaching: Fellow dependent – staff augment as required - didactic but intermittent RN most directive with information</td>
</tr>
</tbody>
</table>
roles & sequence

structure  ‘this is how we do (these) rounds’

expectation  advance knowledge means preparation

presentation  mechanistic & freeformfreestyle

checklists  for process and system-based presentation

problemslists  customized, and prepared

data dump  from the HIS / EHR - my favourite

engagement  is this a role?
Nurse–doctor interactions during critical care ward rounds

ELIZABETH MANIAS RN, BPharm, MPharm, MNursStud, PhD, CertCritCare, FRCNA
Senior Lecturer, School of Postgraduate Nursing, The University of Melbourne, Level 1, 723 Swanston Street Carlton, Victoria, 3053, Australia

ANNETTE STREET BEd, PhD
Professor, Chair of Nursing Research, School of Nursing, La Trobe University, Bundoora, Victoria, 3083, Australia

Accepted for publication 9 November 2000

Summary

- This paper describes the participation of critical care nurses in ward rounds, and explores the power relations associated with the ways in which nurses interact with doctors during this oral forum of communication.

ethnographic study of 6 critical care RN in Melbourne, Australia under-represented in room-space and bedside-space of ward rounds published in 2001
Nurses experienced enormous difficulties in raising relevant patient issues during the ward round.

The ward round presentation was the place where residents demonstrated to consultants their skills of assessment and interpretation of patient observations, so their professional reputation was on display.
'Nurses experienced enormous difficulties in raising relevant patient issues during the ward round.
The ward round presentation was the place where residents demonstrated to consultants their skills of assessment and interpretation of patient observations, so their professional reputation was on display.'
Prevalence and Factors of Intensive Care Unit Conflicts
The Conflicthis Study

Élie Azoulay1, Jean-François Timsit2, Charles L. Sprung3, Marcio Soares4, Kateřina Rusinová5, Ariane Lafabrie6, Ricardo Abizanda6, Mia Svantesson7, Francesca Rubulotta8, Bara Ricou9, Dominique Benoît10, Daren Heyland11, Gavin Joynt12, Adrien François2, Paulo Azevedo-Maia13, Radoslaw Owczuk14, Julie Benbenishty5, Michael de Vita15, Andreas Valentin16, Akos Ksomas17, Simon Cohen18, Lidija Kompan19, Kwok Ho20, Fekri Abroug21, Anne Kaarlola22, Herwig Gerlach23, Theodoros Kyprianou24, Andrej Michalsen25, Sylvie Chevret26, and Benoît Schlemmer1, for the Conflicthis Study Investigators and for the Ethics Section of the European Society of Intensive Care Medicine*

1AP-HP, Hôpital Saint-Louis, Medical ICU, University Paris-7 Paris-Diderot, UFR de Médecine, Paris, France; 2INSERM U823, Hopital Michallon, CHU de Grenoble, Grenoble, France; 3Department of Anesthesiology and Critical Care Medicine, Hadassah Hebrew University Medical Center, Jerusalem, Israel; 4Intensive Care Unit, Instituto Nacional de Câncer, Rio de Janeiro, Brazil; 5Department of Anesthesiology and Critical Care Medicine, Medical ICU, Prague University Hospital, Prague, Czech Republic; 6Servei de Medicina Intensiva, Hospital Universitari Asociado General de Castellón, Castellón, Spain; 7Centre for Health Care Sciences, Örebro University Hospital, Örebro, Sweden; 8Policlinico University Hospital Catania, Italy; 9Department of Intensive Care, Geneva University Hospitals and University of Geneva, Geneva, Switzerland; 10Department of Intensive Care Medicine, Ghent University Hospital, De Pintelaan Ghent, Belgium; 11Department of Medicine, Queen’s University, Kingston, Ontario, Canada; 12Department of Anaesthesiology and Intensive Care, The Chinese University of Hong Kong, Prince of Wales Hospital, Shatin, Hong Kong; 13Department of Anesthesia and Intensive Care, Hospital de S. João, Porto, Portugal; 14Department of Anaesthesiology and Intensive Therapy, Medical University of Gdansk, Gdansk, Poland; 15University of Pittsburgh Medical Center, Pittsburgh, Pennsylvania; 16General and Medical Intensive Care Unit II, Medical Department, Klinikum Charité, Berlin, Germany; 17Semmelweis University, Surgical Intensive Care Unit, Budapest, Hungary; 18Department of Medicine, University College London, London, United Kingdom; 19Clinical Centre Ljubljana, University of Ljubljana, Ljubljana, Slovenia; 20Intensive Care Unit, Royal Perth Hospital, Perth, Australia; 21Intensive Care Unit, CHU Fatouma Bourguiba, Monastir, Tunisia; 22Department of Anaesthesia and Intensive Care Medicine, Helsinki University Central Hospital, Helsinki, Finland; 23Department of Anesthesia, Intensive Care Medicine, and Pain Management, Vivantes Klinikum Neukölln, Berlin, Germany; 24Department of Computer Science, University of Cyprus, Nicosia, Cyprus; 25Department of Anesthesiology and Critical Care Medicine, HELIOS Spital, Überlingen/See, Germany; 26Biostatistical Department, U717 INSERM, AP-HP, Paris 7 University, Saint-Louis Hospital, Paris, France

7358 (80.9%) questionnaires | 323 (81.4%) ICUs | 24 countries
2090 (28.4%) no conflict
5268 = 71.6% reported ≥1 conflict
Azoulay, Timsit, Sprung et al.: Conflicts in the ICU

most ‘communication’ related

& 70% preventable
nursing report sequence

before

after

thanks to K Streitenberger

a place to speak... structured communication... ? opportunity to add

‘co-operation is different than collaboration’
Qualitative study of interaction between senior resident & attending for leadership of ward rounds in pediatric inpatient service. 
stepping up & stepping back

<table>
<thead>
<tr>
<th>QUADRANT A</th>
<th>QUADRANT B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attending stands back</td>
<td>Attending steps up</td>
</tr>
<tr>
<td>Senior resident steps up</td>
<td>Senior resident steps up</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>QUADRANT C</th>
<th>QUADRANT D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attending stands back</td>
<td>Attending steps up</td>
</tr>
<tr>
<td>Senior resident stands back</td>
<td>Senior resident stands back</td>
</tr>
</tbody>
</table>

AUTHORS: Dorene F. Balmer, PhD, RD, a,b Angelo P. Giardino, MD, PhD, MPH, c,d and Boyd F. Richards, PhD a,b

a Center for Education Research and Evaluation, Columbia University Medical Center, New York, New York; b Department of Pediatrics, Columbia University’s College of Physicians and Surgeons, New York, New York; c Department of Pediatrics, Baylor College of Medicine, Houston, Texas; and d Texas Children’s Health Plan, Houston, Texas
# process & content ‘roles’

<table>
<thead>
<tr>
<th>manager</th>
<th>leader usually ICU physician / fellow</th>
</tr>
</thead>
<tbody>
<tr>
<td>data</td>
<td>primary (ICU now, previous)</td>
</tr>
<tr>
<td></td>
<td>secondary (ICU now, previous)</td>
</tr>
<tr>
<td></td>
<td>clarification &amp; correction</td>
</tr>
<tr>
<td></td>
<td>care process review</td>
</tr>
<tr>
<td>discussion</td>
<td>diagnostic &amp; therapeutic options</td>
</tr>
<tr>
<td></td>
<td>questions or concerns &amp; what if ?</td>
</tr>
<tr>
<td></td>
<td>summary</td>
</tr>
<tr>
<td>output</td>
<td>actions</td>
</tr>
<tr>
<td></td>
<td>priorities &amp; timelines</td>
</tr>
<tr>
<td></td>
<td>assignment</td>
</tr>
</tbody>
</table>
place

bedside  calf pain, noise, distraction, isolation rooms

xray viewer  now possible at the bedside, but not done

a room  conference room = comfort with coffee & buns

remotely  by phone & telemedicine

the tape  pre-recorded ‘press play’ = efficient & replayable

implications for participants & purpose
Nurse–doctor interactions during critical care ward rounds

ELIZABETH MANIAS RN, BPharm, MPharm, MNursStud, PhD, CertCritCare, FRCNA
Senior Lecturer, School of Postgraduate Nursing, The University of Melbourne, Level 1, 723 Swanston Street Carlton, Victoria, 3053, Australia

ANNETTE STREET BEd, PhD
Professor, Chair of Nursing Research, School of Nursing, La Trobe University, Bundoora, Victoria, 3083, Australia

Accepted for publication 9 November 2000

physical location can exclude
**place & space**

**Marguerite:** I think the opportunity is there for them [nurses] to have a say, if they happen to be in the room [laughs]! My experience has been at least 95% of the time, that by the time I get into the room they’ve [the doctors] already started. So I don’t hear what’s said before I got in there.

**Researcher:** How does that make you feel?

**Marguerite:** Well, you come in and you’re not quite sure what they’ve talked about, or what the resident’s said already. You’re on the back foot, aren’t you? I had an example just recently. I went into the discussion room, discussed my patient and as I was leaving, I said, `Well, who do you want to do next?’ and they told me.
So I went back out to Alexis, the next nurse and said, `Okay, you’re next’, and she said, `Oh, I can’t at the moment. Could you ask them perhaps to do bed 2?’ I think she had to do something with the patient.

So I went back to the discussion room, put my head in the door and said, `Alexis can’t come at the moment, are you able to do bed 2 instead?’

and the response was,

`Oh well, no, don’t worry, we’ll carry on.
mental space
speed of thought

understand / process 800 words / min
speak 80-175 words / min
read aloud 100 words / min

thus we have spare capacity

= ‘opportunity to think about priority items’

  golf, the weekend, next deadline, discharges...

  & the master of multi-tasking (BBM, BFF, CCRT, TSX...)

Christopher S Parsuram Scientist Child Health Evaluative Sciences The Research Institute. Staff Physician Department of Critical Care Medicine Hospital for Sick Children Toronto. Faculty of Medicine University of Toronto Ontario Canada
A Chinese symbol for “To Listen”

US Dept Defence website accessed 29 October 2012
active listening

1 Seek to understand before you seek to be understood
2 Be non judgmental
3 Give your undivided attention to the speaker
4 Use silence effectively

US Dept Defence website accessed 29 October 2012 from http://www.state.gov/m/a/os/65759.htm

AMG: everyone except the person speaking...
aviation analogies

cognitive overload & the ‘10,000 foot rule’
no idle chatter at ‘low altitude’
OR silence for the surgeon
when is it < 10,000 feet in the ICU?
intubation / CPR .... the ward round?

...should have tape on mouth (aka method Québécois)
degrees of active listening

Bickham 2009
(wikipedia)

= understanding
listening vs. hearing
Noise in hospital intensive care units—a critical review of a critical topic

Avinash Konkani*, Barbara Oakley

Department of Industrial and Systems Engineering, Oakland University, Rochester, MI 48309-4401, USA

systematic review

noise is increasing 1960-2005: day 56 -> 72 dB & night 40 ->60 dB

patients most annoying is ‘talking’ & room peak 85dB

85 dB = 2-stroke chainsaw at 10m
5 time & duration

time of day

at the time of bedside handover is an unpopular choice,

speed ‘those last patients’

the round evolves to fill the available space

the last patients have less time spent at their bedside

handover vs. familiar review (should it be?) chronic patients

how long is long enough?

how long is needed? original data, secondary review, conversation
documented items.pt\(^{-1}\).day\(^{-1}\)

Percent of ICU Days

No therapy

ECMO

Dialysis

HFOV

Inotrope

Dyspnea

Mechanical Ventilation

No therapy

ECMO

Dialysis

HFOV

Inotrope

Manor-Shulman 2008
getting worse ... or better

Volume of Documented Clinical Information by year

Manor-Shulman 2008
15 patients / 60 minutes
= 4 minutes per patient
= 2-300 documented items/ minute + drugs + teaching + interruptions

vs. 3 hours for 20 patients 9 minutes / patient
goals, deliverables, focus
articulates expectation & ‘value’
patient centeredness
may be preparation for the next ‘round’
tests, treatment goals, consults, look-up X
= ‘readback’ of plans & discussion
repetition to reinforce memory/ recall
conclusion and move on...
QUALITY CORNER

Improving Communication in the ICU Using Daily Goals

Peter Pronovost, Sean Berenholtz, Todd Dorman, Pam A. Lipsett, Terri Simmonds, and Carol Haraden

Journal of Critical Care, Vol 18, No 2 (June), 2003: pp 71-75

introduction of daily goals ‘checklist’

15 -bed surgical ICU

3 Residents + 3 Nurse Practitioners

enforced discussion of each item

actual discussion content not described

‘20-25 minutes’ / patient
Fig 1. Percent of residents and nurses per week understanding goals.

Fig 2. Impact of daily goals sheet on ICU LOS.
enhance
word of the 10’s
opportunities to improve

there are many ward rounds

customized approaches & understanding of each, role definition

active listening

effective knowledge sharing

prepare

many smart people are on ‘the’ ward round

can we engage all or some?

what is actually needed from each?

ASK how many of these busy people are needed?
role-scope-time-attention

active listening & participation for all (‘sure’)

for the individual...

role in round vs. scope of practice vs. time allocated

are these elements matched for all individual healthcare professionals on the ‘round’

‘value’ (to round & the healthcare prof.)

attention over competing needs
think about primary data

patient past history
presenting history
investigation history
actual ‘vital’ signs reviewed or summarized vs systems review - with lab work
problem list & diagnoses

thorough preparation done in advance
Quite simply, information lost at the source is lost forever.

Since its introduction over 30 years ago the Sondek LP12 has been the turntable by which all others are judged and each component has been continuously improved to extract even more information from a vinyl record.
another bloody model

the Johari model
from Luft & Ingram

When you know something, say what you know. When you don’t know something, say that you don’t know. That is knowledge

Kung Fu Tzu (Confucius)
refashioned

known to me

known to all

known by none

known by others

useful knowledge for / on the ‘round’
rounds goals

useful knowledge is public knowledge
‘just in time’

the **what if** discussion

- know your audience
- pre-emptive ‘FMEA’
- check if plans in place

**just-in-time training**

- + post-round in-ICU simulation
- sickest patients, the real RN, RT & resident (Nadkarni)
Using Six Sigma® Methodology to Improve Handoff Communication in High-Risk Patients

Kshitij P. Mistry MD, MSc; James Jaggers, MD; Andrew J. Lodge, MD; Michael Alton, MSN, RN; Jane M. Mericle, BSN, RN, MHS-CL; Karen S. Frush, MD; Jon N. Meliones MD, MS
single patient handover

before 1 identify & complete urgent tasks
e.g. patient’s primary nurse first reviews all drug infusions

2 all team members present
surgical, anaesthesia, critical care

during sequence by discipline
[a] cardiothoracic surgery team (history & procedure)
[b] the anesthesiology team (anesthetic course)
[c] critical care team asked clarifying questions.
structure increases speed

**Figure 1.** Handoff turnaround time.

**DMAIC: Define, Measure, Analyze, Improve, and Control**

introduction of
## summary

<table>
<thead>
<tr>
<th>1 purpose</th>
<th>define clearly, articulate for all</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 place</td>
<td>consider wisely</td>
</tr>
<tr>
<td>3 people</td>
<td>match to roles, each must prepare</td>
</tr>
<tr>
<td>4 roles</td>
<td>relate to objectives &amp; structure</td>
</tr>
<tr>
<td>5 duration</td>
<td>be realistic</td>
</tr>
<tr>
<td>6 output</td>
<td>is the consequence of rounds</td>
</tr>
<tr>
<td></td>
<td>= value &amp; rationale</td>
</tr>
</tbody>
</table>
recency effect

source Wikipedia

garbage in = garbage out
information lost at source is lost forever
anchor your discussions in reality
understand the purpose
prepare well
goal
thank you