

# All about good medical writing

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# Medical Writing

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## **Logical Description of Something New with Reproducibility**

# Logical writing of something new

- **Something new**

- Topic
- Methodology
- New insight or interpretation

- **Logical writing**

- Reasonable interpretation
- Balanced citation and discussion

# MANUSCRIPT WRITING

## SEQUENCE -1

- **TOPIC** Item /Concept → Review of published paper (Objective & hypothesis) → study protocol (analyzing factor) & IRB document
- **DATA COLLECTION AND ANALYSIS** Confirm variables to fill up (3 tables & 2 figures) → data collection → statistical analysis
- **WRITING** Draft (table & figure → result → material & method → introduction & discussion → abstract → title) → co-author review & comment → final manuscript
- **SUBMISSION** Target journal → Approval for final manuscript → Submission (manuscript, figure, table, cover letter etc.)
- **ACCEPTANCE** Interim decision (major revision, minor revision, re-submission, reject) → re-submission → final acceptance → Copyright transfer → PDF confirm → online (pubmed) publication → final paper publication

# MANUSCRIPT WRITING SEQUENCE -2

**IRB & Data collection**

**Interpretation & writing**

**Submission**

**Revision**

**IRB &**

**Data collection**

**Interpretation  
& writing**

**Submission**

**Revision**

# Topic selection

**Table 1.** Treatment outcomes in ovarian cancer patients who received neoadjuvant chemotherapy (paclitaxel + platinum) and interval cytoreduction

Author [Ref.]	Year	Country	FIGO stage	Patients, n	Indication of NAC	Chemotherapy regimen (pts)	Optimal / complete cytoreduction (pts)	Survival	Others
Kuhn [42]	2001	Germany	IIIC, 31	31	sonographic finding: large amount of ascites (> 500 ml)	paclitaxel + platinum 3 cycles, 100%	RT < 2 cm, 83.9% (26/31) RT < 0 cm, 32.3% (10/31)	median OS, 42 M	prospective, nonrandomized phase II study
Chan [51]	2003	China	IIIC, 4 and; IV, 13	17	CT findings: i) attachment of the omentum to the spleen; ii) disease > 2 cm on the diaphragm, liver surface, or parenchyma, pleura, mesentery, gall bladder fossa; and iii) suprarenal paraaortic nodes; poor performance status (ECOG < 3)	paclitaxel + platinum 3 or 6 cycles, 100%	RT < 2 cm, 76.9% (10/17) RT < 0 cm, 38.5% (5/17)	median OS, 23 M median PFS, 13 M	phase I study
Morice [52]	2003	France	IIIC, 30 and; IV, 4	34	if optimal cytoreduction was not possible using standard surgery <sup>a</sup> or was feasible but only by using extensive surgery <sup>b</sup> at initial surgical exploration	paclitaxel + platinum 3 or 4 cycles, 94.1% (32/34)	RT < 2 cm, 94.1% (32/34) RT < 0 cm, 64.7% (22/34)	median OS, 26 M 2Y OS, 66% 2Y PFS, 26%	retrospective study
Le [53]	2005	Canada	II, 4; III, 55 and; IV, 2	61	all consecutive patients with large pelviabdominal masses, clinically obvious metastasis, and elevated CA-125	paclitaxel + platinum 3 cycles, 100%	RT < 2 cm, 80.3% (49/61) RT < 1 cm, 54.1% (34/61) RT < 0 cm, 26.2% (16/61)	median OS, 42 M 19M OS, 77%	retrospective study
Everett [54]	2006	USA	III, 72 and; IV, 26	98	intra-operative findings suggesting difficult optimal cytoreduction: intraparenchymal hepatic metastases, large volume upper abdominal disease, and extensive retroperitoneal adenopathy; serious medical comorbidities which made surgery unsafe	paclitaxel + platinum 3 cycles, 94% (189/200 including both NAC and primary CRS groups)	RT < 1 cm, 85.7% (84/98)	median OS, 33 M	retrospective study
Lee [55]	2006	Korea	III, 16 and; IV, 2	18	whether or not patients agree to the NAC protocol	paclitaxel + platinum 3 cycles, 100%	RT < 2 cm, 77.8% (14/18)	median OS, 53 M median PFS, 15 M	prospective, nonrandomized study
Steed [56]	2006	Canada	III, 34 and; IV, 16	50	CT findings suggestive of stage IV disease (positive pleural effusions) and unresectable disease (any disease in the porta hepatis, splenic hilum, peritoneal carcinomatosis with greater than the estimated 1,000-g metastatic load, diaphragmatic plaques > 2 cm, or bulky suprarenal para-aortic nodes); medical co-morbidities that precluded aggressive cytoreductive surgery	paclitaxel + platinum 3 or 4 cycles, 100%	RT < 1 cm, 72.2% (26/36) RT < 0 cm, 34.6% (9/36)	median OS, 29 M 3Y OS, 30% median PFS, 14 M	retrospective study
Bilici [57]	2009	Turkey	III, 51 and; IV, 1	52	CT findings: omentum replaced by tumor that extends to the spleen and presence of large omental caking, diffuse peritoneal deposits or disease > 2 cm on the diaphragm, liver surface or parenchyma, pleura, mesentery, gallbladder fossa or suprarenal para-aortic lymph nodes; medical co-morbidities; extra-abdominal disease	paclitaxel + platinum 4, 94.2% (49/52)	RT < 1 cm, 82.7% (43/52)	median OS, 47.5 M 2Y OS, 90% median PFS, 13.3 M 2Y PFS, 31%	retrospective study
Park [39]	2010	Korea	IIIC, 55 and; IV, 5	60	CT findings: i) extraperitoneal disease (except isolated malignant pleural effusion); ii) multiple liver metastases requiring total resection of liver; iii) involvement of the porta hepatis; iv) pancreatic metastasis (except pancreatic tail); v) involvement of the mesenteric root of the small intestine; vi) para-aortic lymph node metastasis above the renal veins or; vii) disease that is larger than 2 cm and perforates the diaphragm; extraperitoneal metastasis except malignant pleural effusion; poor performance status (ECOG < 3)	paclitaxel + platinum 3 cycles, 100%	RT < 1 cm, 100% (60/60) RT < 0 cm, 35% (21/60)	median OS, 55 M 2Y OS, 73% 5Y OS, 43% median PFS, 18 M 2Y PFS, 45% 5Y PFS, 21%	retrospective study

<sup>a</sup>Total hysterectomy with bilateral salpingo-oophorectomy + omentectomy + pelvic and para-aortic lymphadenectomy with or without resection of the recto-sigmoid if necessary.

<sup>b</sup>Resection of more than 2 segments of the digestive tract, and/or spleno-pancreatectomy.

FIGO = International Federation of Gynecology and Obstetrics; NAC = neoadjuvant chemotherapy; pts = patients; RT = residual tumor; OS = overall survival; M = month; CT = computed tomography; ECOG = Eastern Cooperative Oncology Group; PFS = progression-free survival; Y = year; CRS = cytoreductive surgery.



## MANUSCRIPT WRITING

# SEQUENCE -3

- **Data to be collected: Confirm variables to fill up (3 tables & 2 figures) Review paper**
  - 3 tables (Baseline Chx, surgical outcome & complication in 2 groups)
    - Variables from published paper
  - 2 figures (PFS/OS & Op figure)
- **Data collection (example)**
  - Categorize
    - Baseline characteristics
    - Pathology
    - Surgery
    - Out patient department
    - Interview, questionnaire
  - Who?
    - Officers of medical record service, nurse, trainee, or myself
  - **REPRODUCIBILITY !!**
- **Statistical analysis** (r statistics/SPSS / SAS / STATA)

# DATA form for collection & analysis

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	
No	Name	Age	BMI	FIGO Stage	Histology	Grade	Preoperative tumor size	Preoperative eoadjuvant chemotherapy	ASA classification	Type of hysterectomy*	LND	Conversion to open surgery	Operation time	EBL	Transfusion	Tumor size	Harvested LN	Metastatic LN	Complication	Intraoperative complications	Postoperative management	Postoperative management	Postoperative management	Postsurgical adjuvant treatment	
		year	(kg/m <sup>2</sup> )	Ia1 Ia2 Ib1 Ib2 Iia	Squamous Adenocarcinoma Adenosquamous Others	I II III	median (cm)	Yes No	I II III	A (simple hysterectomy) B (modified RH) C1 (n. sparing RH) C2 (RH)	Pelvic Pelvic + PA	Adhesion Bleeding Bulky LN mets Associated complicating disease Intraop. Cx	(min)	(mL)	(pint)	cm	No	No	Great vessel injuries Ureteral injuries Bladder injuries Intestinal injuries Wound dehiscence/infections Fetile morbidity Pleural effusion Intra-abdominal infection Incisional hernia Vesicovaginal fistula Ureterovaginal fistula Ileus requiring L-tube Ileus requiring re-operation Deep vein thrombosis Pulmonary embolism	Great vessel injuries Ureteral injuries Bladder injuries Intestinal injuries Wound dehiscence/infections Fetile morbidity Pleural effusion Intra-abdominal infection Incisional hernia Vesicovaginal fistula Ureterovaginal fistula Ileus requiring re-operation	Foley catheter (day)	RU<50mL (day)	Hospitalization (day)	Radiother: Chemother CCR	
Basic characteristics																									
Pathology																									
Surgery																									
Out Patient Department chart																									

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD
No	Name	Age	BMI	ASA classification	Operation time	EBL	Transfusion	Histology	Grade	Preoperative tumor size	Tumor size	Harvested LN	Metastatic LN	Preoperative eoadjuvant chemotherapy	FIGO Stage	Complication	Postoperative management	Postoperative management	Postoperative management	Postsurgical adjuvant treatment	계발	사망	계발일	사망일	외종 투입	Type of hysterectomy*	LND	Conversion to open surgery	Intraoperative complications
1		year	(kg/m <sup>2</sup> )	I II III	(min)	(mL)	(pint)	Squamous Adenocarcinoma Adenosquamous Others	I II III	median (cm)	cm	No	No	Yes No	Ia1 Ia2 Ib1 Ib2 Iia	Great vessel injuries Ureteral injuries Bladder injuries Intestinal injuries Wound dehiscence/infections Fetile morbidity Pleural effusion Intra-abdominal infection Incisional hernia	Foley catheter (day)	RU<50mL (day)	Hospitalization (day)	Radiotherapy Chemotherapy CCRT						A (simple hysterectomy) B (modified RH) C1 (n. sparing RH) C2 (RH)	Pelvic Pelvic + PA	Adhesion Bleeding Bulky LN mets Associated complicating disease Intraop. Cx	Great vessel injuries Ureteral injuries Bladder injuries Intestinal injuries Wound dehiscence/infections Fetile morbidity Pleural effusion Intra-abdominal infection Incisional hernia
2	Basic characteristics				Officer																								
3	Pathology				Research Nurse																								
4	Surgery				Trainee																								
5	Out Patient Department chart				Myself																								



# MANUSCRIPT WRITING

## SEQUENCE -4

- **Writing draft !!!**
  - (3) tables & (2) figures
  - Result ← M & M
  - Introduction (needs of study)& discussion (What's something new?)
  - Abstract (completeness & **consistency**)
  - Title
  - Write simple to go every journal (word No. / abstract / T &F)
- **Co-author review & comment → final manuscript → English proofreading**
  - Co-author review
    - Deadline 3-7 days
    - Copyright transfer / conflict of interest
  - Register ID & PW (at website of target journal) → Interim submission

# MANUSCRIPT WRITING

## SEQUENCE -5

- **Target journal**

- Trend of recent publication
- Not too high for time saving

- **Submission**

- Cover letter (un-submitted to other journals, how fancy, final approval, respectfully)
- Final check
  - Number in abstract, table & figure, result, discussion
  - Abstract
    - Parts of the whole manuscript & completeness
    - Objective  $\Leftrightarrow$  Conclusion with support of data (result)
  - Consistency
  - Tone

## MANUSCRIPT WRITING

# SEQUENCE -6

- **Wait (2 mo) & push gently for rapid process !**
  - **Summer & Christmas holiday**
  
- **Revision (make a plan on the day)**
- **Re-submission within 1wks**
  - **English proofread (3-4 days)**
  
- **Final acceptance**
- **Copyright transfer (within several hours) → PDF confirm (within 2 days)**
- **Online (pubmed) publication → final paper publication**

# When can I find my article in the PubMed?

🌈 recognition of achievements : online publication

🌈 **The shortest time path**  
**(without good mentor)**

- **Topic selection (1 mo)**
- **Data collection (1 mo)**
- **Drafting (1 mo)**
- **1<sup>st</sup> submission & reject (1 mo)**
- **2<sup>nd</sup> submission & reject (2 mo)**
- **3<sup>rd</sup> submission & major revision (3 mo)**
- **Re-submission & accept (2 mo)**
- **PDF confirm (2 mo)**
- **Online publication (3 mo)**
- **Total 16 months**

🌈 **The shortest time path**  
**(with good mentor)**

- **Topic selection (1 wk)**
- **Data collection (2 wks)**
- **Drafting (1 mo)**
- **1<sup>st</sup> submission & reject (3 wks)**
- **2<sup>nd</sup> submission & reject (1 mo)**
- **Re-submission & accept (1 wk)**
- **PDF confirm (1 mo)**
- **Online publication (1 mo)**
- **Total 5 months 3 weeks**

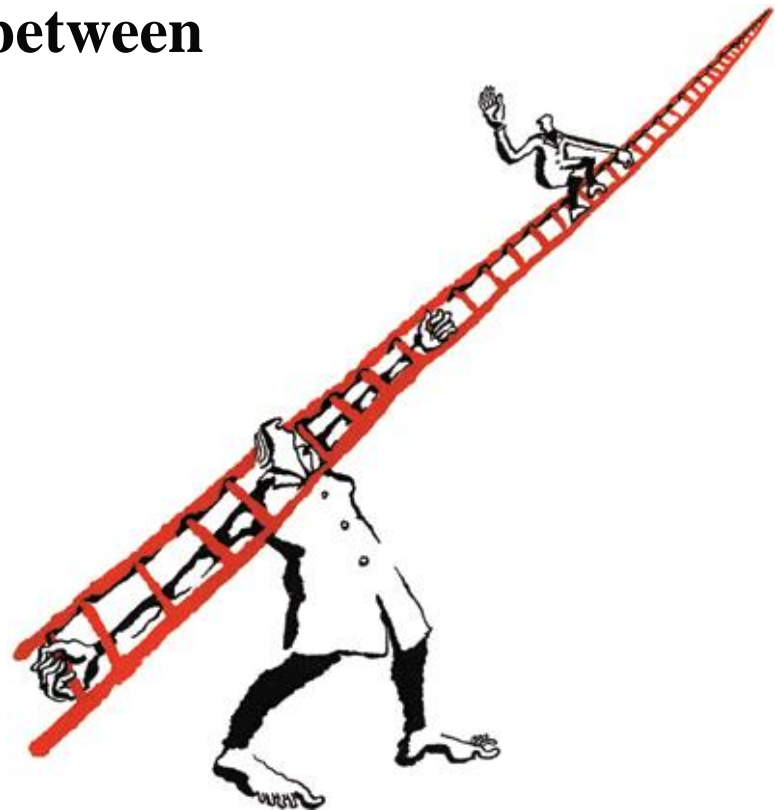
🌈 **Is it practical or acceptable for you or your situation?**

→ **Find good mentor who is currently active researcher & Self-confidence**

not supervisor

# Find and meet good mentor!

Having a good mentor early in your career can mean the difference between success and failure in any field.



(Lee A et al., Nature's guide for mentors. [WWW.natuer.com](http://WWW.natuer.com))

not supervisor

# Find and meet good mentor!

 *Nature's* guide for mentors

1. Availability: the open door
2. Inspiration, optimism
3. Balancing direction and self-direction
4. The art of questioning and listening
5. Being widely read and widely receptive
6. The initial project
7. Life after science
8. Celebration

<http://www.nature.com/nature/journal/v447/n7146/full/447791a.html>

# Don't hesitate!



- **Worry about the future**
- **Priority of work and family affairs**
  - Extramural (hospital work/ meeting friends / club / society)
  - Intramural (operation / outclinic/ dinner meeting /presentation/ miscellaneous work / personal request)

# Secure your researching time!

- 10 sessions > week
  - dawn (4-8) / a.m. (8-12) / p.m. (13-17) / evening (17-21) / **night (21-01)**
- Spousal consent
  - Importance of period, getting the results as a physician
- Communication with research chief with responsibility
- Announce your goal to colleague and friends (good watchdog)





# Environment specification

- **Dual monitor**



- **Program**

- **Excel (basic formula / summary & table & figure)**

- **End-notes (reference manager)**

- **r statistics, SPSS, SAS, STATA**

- **File name management**

Refrain from frustration! Let's have the courage!

At the beginning everyone has ten thumbs.

- But ability improves day by day. Therefore, **try first** and find comment and help subordinately.
- **Experience of several rejection** makes good medical writers.
- Forget frustration and keep the comments from the editors and reviewers.
- Support from mentors and accumulation of personal know-how from experience is essential.

# Ten Tips - 1

1. Focus on design article contents and structure before writing
2. Keep Formatting Requirements of Target Journal
3. Keep Consistency
4. Keep Scientific Confidence
5. Keep Your Story
6. Keep Sentences Short and Simple (KESS)
7. Rule of Ten1
8. Rule of Ten2
9. Keep Rule of First & Last
10. Keep Connecting Words

# Rapid Drafting & Slow Cooking

- **Writing the first draft as soon as possible!**
- **Cooking the draft slowly:**
  - Internal & external review and revision
- **Trim** manuscripts more attractive following TEN Tips!
  - KESS
  - Rule of Ten 1
  - Rule of Ten 2
  - Rule of First and Last
  - Connecting Words

# As a beginner writer -1

## Basic research in Lab

- Merit
  - Novel approach based on the laboratory plan
  - Clear direction
- Shortage
  - Difficult to be main author
  - Required additional study for a clinician



## Clinical study (basically retrospective study)

- Merit
  - Too many(?) missed data
  - Previous publication with similar concept
- Shortage
  - Well known field as a clinician
  - Difficult to find novel finding or make fresh interpretation



# As a beginner writer - 2

- **Real issue for retrospective clinical study**
  - Read widely to continue territory expansion
  - In depth review before topic selection
  - Know your data
    1. Request to department of medical record
    2. Standard procedure
      - More advanced?
      - New concept
  - Statistical consideration
    - P-value<0.05



1. Non-native author
2. Cultural difference

# SOMETHING NEW

- Priority
- Importance

- Target number
- Study design
  - RCT
  - Prospective observational
  - Retrospective
    - Matched
    - Larger pool
    - Case series
    - Case
- Other issue
  - Cost-effectiveness
  - Racial difference
  - Different surgical approaches
  - Patients' attitude or knowledge



# LOGICAL DESCRIPTION-1:

## in the section of DISCUSSION

1. Major finding & Summary
  - “In the current study ~~”
2. New finding 1
  - Previous publication
    - Supporting
    - Opposing
  - Balanced Interpretation & discussion
  - Paragraph – small conclusion
3. New finding 2
4. New finding 3
5. Strong and weak points
  - Suggestion of future study
6. Conclusion

# LOGICAL DESCRIPTION-2:

## Do not !

- Overstating or Exaggerating
- Overuse or mix metaphors (비유)
- Talk down to the reader

## Do !

- Check your facts
- Edit your own writing
- Get a friend to read your draft

# Plagiarism is *stealing!*

- Direct plagiarism
- Paraphrase
- Mosaic plagiarism
- Insufficient acknowledgement
- Self-plagiarism

# Summary

**Don't hesitate!**



**Basic & Best environment!**



**Endnote**  
**r / SPSS / SAS / STATA**  
**Excel**

**Meet the Mentor !**



**Selection & Concentration !**



# \*\*\* Specific & Consistency !!!

- Especially for Asian Medical Writers
- Should have **specific result** from **specific (unique) population**
  - For better reproducibility
- Not review article
- Consistency from title to conclusion
  - Tone
  - Terminology

**Medical writing is a kind of obligation at first,  
You will enjoy your pleasure to the fullest.**

**Make your article sexy!**

林明哲

**[gynlim@gmail.com](mailto:gynlim@gmail.com)**

**[ejgo.org](http://ejgo.org)**