Table, figure 및 결과 다듬기

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Recommendations for the Conduct, Reporting, Editing, and Publication of Scholarly Work in Medical Journals* *Updated August 2013*

IV. Manuscript Preparation and Submission
- A. Preparing a Manuscript for Submission to a Medical Journal
  - 1. General Principles
  - 2. Reporting Guidelines
  - 3. Manuscript Sections
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    - b. Abstract
    - c. Introduction
    - d. Methods
      - i. Selection and Description of Participants
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* Developed by members of the ICMJE over the period 2011 to 2013.
Recommendations for the Conduct, Reporting, Editing and Publication of Scholarly Work in Medical Journals
(ICMJE Recommendations, formerly the Uniform Requirements for Manuscripts)

Results

- Present your results in logical sequence in the text, tables, and figures, giving the main or most important findings first.
- Do not repeat all the data in the tables or figures in the text; emphasize or summarize only the most important observations.
- Provide data on all primary and secondary outcomes identified in the Methods Section.
- Extra or supplementary materials and technical details can be placed in an appendix where they will be accessible but will not interrupt the flow of the text, or they can be published solely in the electronic version of the journal.
- Give numeric results not only as derivatives (for example, percentages) but also as the absolute numbers from which the derivatives were calculated, and specify the statistical significance attached to them, if any.

Recommendations for the Conduct, Reporting, Editing and Publication of Scholarly Work in Medical Journals (ICMJE Recommendations, formerly the Uniform Requirements for Manuscripts)

Results

- Restrict tables and figures to those needed to explain the argument of the paper and to assess supporting data.
- Use graphs as an alternative to tables with many entries; do not duplicate data in graphs and tables.
- Avoid nontechnical uses of technical terms in statistics, such as "random" (which implies a randomizing device), "normal," "significant," "correlations," and "sample."
- Separate reporting of data by demographic variables, such as age and sex, facilitate pooling of data for subgroups across studies and should be routine, unless there are compelling reasons not to stratify reporting, which should be explained.

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Recommendations for the Conduct, Reporting, Editing and Publication of Scholarly Work in Medical Journals (ICMJE Recommendations, formerly the Uniform Requirements for Manuscripts)

How to Report Results

- Results should be presented in the past tense.
- Data and Results Are Not the Same
  - Present relevant data collected from the experiment.
- State the Result, the Whole Result, and Nothing but the Result
  - Present the main results without going into the discussion and conclusion.
  - Prepare the analysed data in the form of a table, figure, or in text form.
- "Significance" Is Misused a Significant Amount of the Time
- Consistency of Results with Other Sections

Singapore Med J 2008;49:967-9
Clin Chem 2010;56:1066-70

Table 1. Options for presentation order of results.

1. Chronological order
2. Grouping by topic or experiment
3. General to specific
4. Most to least important

Clin Chem 2010;56:1066-70

Common Errors in Writing Results

- Illogical sequence of data presentation
- Inaccurate data
- Repetition of data
- Expected data from the materials and methods section not reported
- Misplaced information between the materials and methods and results sections
- Inappropriate presentation of data – overuse and abuse of tables and figures
- Attempts to draw conclusions – this should be covered in the discussion section

Singapore Med J 2008;49:967-9

Tables

- Tables capture information concisely and display it efficiently; they also provide information at any desired level of detail and precision.
- Including data in tables rather than text frequently makes it possible to reduce the length of the text.
- Prepare tables according to the specific journal's requirements; to avoid errors it is best if tables can be directly imported into the journal's publication software.
- Number tables consecutively in the order of their first citation in the text and supply a title for each.
- Titles in tables should be short but self-explanatory, containing information that allows readers to understand the table's content without having to go back to the text. Be sure that each table is cited in the text.
- Give each column a short or an abbreviated heading.

Recommendations for the Conduct, Reporting, Editing and Publication of Scholarly Work in Medical Journals (ICMJE Recommendations, formerly the Uniform Requirements for Manuscripts)

Tables

- Authors should place explanatory matter in footnotes, not in the heading.
- Explain all nonstandard abbreviations in footnotes, and use symbols to explain information if needed.
- Symbols may vary from journal to journal (alphabet letter or such symbols as *, †, ‡, §), so check each journal's instructions for authors for required practice.
- Identify statistical measures of variations, such as standard deviation and standard error of the mean.
- If you use data from another published or unpublished source, obtain permission and acknowledge that source fully.

Tables

1. Additional tables containing backup data too extensive to publish in print may be appropriate for publication in the electronic version of the journal, deposited with an archival service, or made available to readers directly by the authors.
2. An appropriate statement should be added to the text to inform readers that this additional information is available and where it is located.
3. Submit such tables for consideration with the paper so that they will be available to the peer reviewers.

Recommendations for the Conduct, Reporting, Editing and Publication of Scholarly Work in Medical Journals
(ICMJE Recommendations, formerly the Uniform Requirements for Manuscripts)

Tables

1. Tables are used to present complex data in a concise and organised manner.
2. Prepare the results and data of the study before drafting the tables.
3. The flow of the tables should tell a logical story.
4. Design, title and label the tables carefully so that they are easy to understand.

Singapore Med J 2009;50:117-9

When to Present Data in Tables

- Precise numerical data rather than proportions or trends.
- Large numbers of related data.
- Summarise information that will be clearer in a tabular form rather than in a running text.
- Complex information that will be clearer in a table than in a text form or a graph.

Singapore Med J 2009;50:117-9

Table I. Title of table

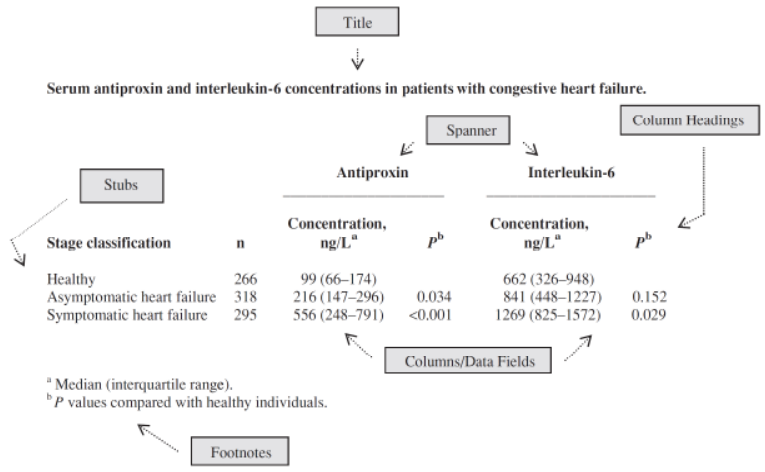
Side heading	Column heading	
	Column subheading* (unit)	Column subheading† (unit)
Row 1 entry	9.12 (2.10)	9.85 (2.45)
Row 2 entry	17.23 (2.50)	17.15 (2.35)
Row 3 entry	16.73 (3.23)	19.12 (3.25)
Row 4 entry	15.68 (2.54)	18.15 (3.15)

Standard errors of the mean are given in parentheses.
* Footnote a.
† Footnote b.

For footnotes, use the following symbols: *, †, ‡, §, ¶, **, ††, etc.

Singapore Med J 2009;50:117-9

Major Components of a Scientific Table



Clin Chem 2010;56:1528-34

Table Alignment

- The stubs should all be left justified.
- In the columns/data fields, words should be left justified, and whole numbers should be right justified.
- Data fields containing decimal points, plus/minus symbols, slashes, hyphens, or parentheses should be aligned on these elements.
- When the text in a stub wraps to a second line, the corresponding data field should align with the top line of the stub.

Clin Chem 2010;56:1528-34

Table Alignment

Table 3. Phenytoin concentrations measured by immunoassay for matrices supplemented with 10 mg/L phenytoin.

	Mean (SD), mg/L	Mean ± SD, mg/L	Deviation from target, %
Pig serum	11.4 (2.1)	11.4 ± 2.1	14
Sheep serum	10.7 (1.4)	10.7 ± 1.4	7
Artificial serum	10.3 (0.8)	10.3 ± 0.8	3
Saline	10.1 (0.6)	10.1 ± 0.6	1
Human serum	9.9 (0.6)	9.9 ± 0.6	−1
Cow serum	9.6 (1.4)	9.6 ± 1.4	−4
Horse serum	8.9 (0.7)	8.9 ± 0.7	−11

Clin Chem 2010;56:1528-34

Checklist for Creating Good Tables

Every table should do the following:

1. Convey important information more efficiently than text and complement (without duplicating) the text;
2. Make a clear point and be as simple as possible;
3. Be organized logically;
4. Be self-explanatory and include definitions for all abbreviations;
5. Have a short, specific, descriptive title;
6. Adhere to the instructions for authors of the journal; INSTRUCTIONS FOR TABLE CREATION.pdf
7. Be created with the table editor of word-processing software; and
8. Be edited for accuracy, understandability, and consistency.

CHEST 2009; 135:1087–9

Table 1—*Working Table Summarizing Studies of Miracillin in Adults With Acute Exacerbations of Chronic Bronchitis

References†	Study Design	Setting	Anthonisen Type	Patients, Evaluable, No./Enrolled, No.	Drug, Dosage (Duration)	Measure, Miracillin vs Control Drug		
						Primary Efficacy	Other Efficacy	Adverse Events
Jones, 2004	R, DB, MC	Outpatient	I or II	100/120 101/119	Miracillin, 10 mg qd (10 d) Amoxicillin, 500 mg q8h (10 d)	Clinical success, 93% vs 83%; p = 0.04	All-cause mortality, 1% vs 1%; p > 0.05	Any, 14% vs 16%; p > 0.05; withdrawn, 2% vs 5%; p > 0.05; diarrhea, 2% vs 6%; p > 0.05
Smith, 2001	R, open	Outpatient or hospital	I, II, or III	50/60 51/61	Miracillin, 5 mg q12h (10 d) Ampicillin, 250 mg q6h (10 d)	Clinical cure, 50% vs 48%; p > 0.05	Clinical cure or improvement, 95% vs 82%; p < 0.05	Any, 13% vs 20%, p > 0.05; withdrawn, 2% vs 5%, p > 0.05; diarrhea, 4% vs 6%; p > 0.05
Wilson, 2006	R, DB, MC	Outpatient	I or II	250/260 249/259	Miracillin, 10 mg qd (10 d) Azithromycin, 500 mg q24h (3 d)	Clinical success, 96% vs 95%; p > 0.05	Microbiological success, 100% vs 91%; p < 0.05	Any, 14% vs 14%, p > 0.05; withdrawn, 2% vs 2%; p > 0.05; diarrhea, 5% vs 5%; p > 0.05

*DB = double blind; MC = multicenter; R = randomized; success = cure or improvement.
†Fictitious, not actual, studies, to demonstrate the use of a working table.

Table 2—*Final Revision of Working Table Summarizing Double-Blind, Randomized, Multicenter Studies of Therapy With Miracillin, 5 mg Daily for 10 Days, in Outpatients With Acute Exacerbations of Chronic Bronchitis*

References*	Control Drug, Dosage (Duration)	Adults With Clinical Success, No./Evaluable Patients, No. (%)		p Value
		Miracillin	Control	
Jones, 2004	Amoxicillin, 500 mg q8h (10 d)	93/100 (93)	84/101 (83)	0.04
Wilson, 2006	Azithromycin, 500 mg q24h (3 d)	240/250 (96)	237/249 (95)	> 0.05

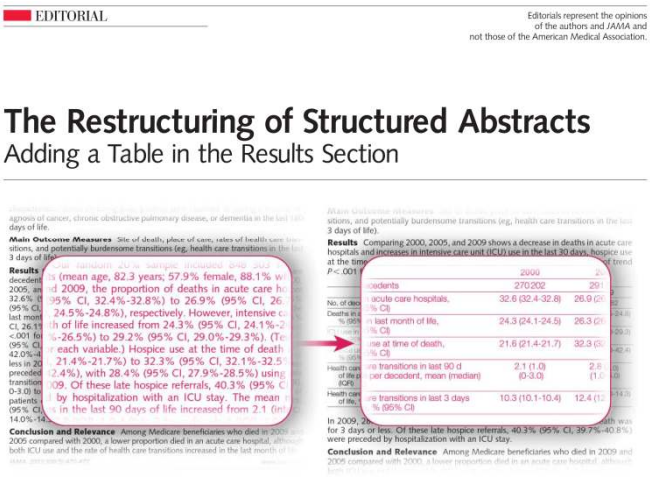
*Fictitious, not actual, studies, to demonstrate the use of a working table.

Common Errors in Table

1. Tables in the manuscript are not cited in the text.
2. Tabular data do not agree with the data given in the text.
3. Inaccurate arithmetic for columns (e.g. numbers do not add up).
4. Information in the text is duplicated in the tables.
5. Information in the tables is duplicated in graphs.

Singapore Med J 2009;50:117-9

Innovation in the JAMA Structured Abstract



EDITORIAL

Editorials represent the opinions of the authors and JAMA and not those of the American Medical Association.

The Restructuring of Structured Abstracts
Adding a Table in the Results Section

JAMA. 2013;309:491-2

Illustrations (Figures)

- Digital images of manuscript illustrations should be submitted in a suitable format for print publication.
- Most submission systems have detailed instructions on the quality of images and check them after manuscript upload.
- For print submissions, figures should be either professionally drawn and photographed, or submitted as photographic quality digital prints.
- For X-ray films, scans, and other diagnostic images, as well as pictures of pathology specimens or photomicrographs, send high-resolution photographic image files.
- Since blots are used as primary evidence in many scientific articles, editors may require deposition of the original photographs of blots on the journal's website.
- Although some journals redraw figures, many do not. Letters, numbers, and symbols on figures should therefore be clear and consistent throughout, and large enough to remain legible when the figure is reduced for publication.
- Figures should be made as self-explanatory as possible, since many will be used directly in slide presentations. Titles and detailed explanations belong in the legends— not on the illustrations themselves.

Recommendations for the Conduct, Reporting, Editing and Publication of Scholarly Work in Medical Journals (ICMJE Recommendations, formerly the Uniform Requirements for Manuscripts)

Illustrations (Figures)

- Photomicrographs should have internal scale markers.
- Symbols, arrows, or letters used in photomicrographs should contrast with the background.
- Explain the internal scale and identify the method of staining in photomicrographs.
- Figures should be numbered consecutively according to the order in which they have been cited in the text.
- If a figure has been published previously, acknowledge the original source and submit written permission from the copyright holder to reproduce it.
- Permission is required irrespective of authorship or publisher except for documents in the public domain.
- In the manuscript, legends for illustrations should be on a separate page, with Arabic numerals corresponding to the illustrations.
- When symbols, arrows, numbers, or letters are used to identify parts of the illustrations, identify and explain each one clearly in the legend.

Recommendations for the Conduct, Reporting, Editing and Publication of Scholarly Work in Medical Journals (ICMJE Recommendations, formerly the Uniform Requirements for Manuscripts)

Figure Types

- Statistical graphs, charts, and simple diagrams
- Photographic images (color photos, radiographs, ultrasound images, CT scans, MRI scans, electron micrographs, and photomicrographs)
- Illustrations
- Videos

http://jama.jamanetwork.com/data/ifora-forms/jama/jamatechreqfigures.pdf

GLOSSARY

AI: Native file format of Illustrator (Adobe).

BMP: Windows bitmap, the file format built into Windows and native to Microsoft Paint; supports 1-24 bit depth and index color.

Compression: Minimizing the size in bytes of a graphics file without degrading the quality of the image to an unacccept-able level. See also lossy, non-lossy, and LZW compression.

dpi/ppi: dpi stands for dots per inch; it refers to a measurement of output device resolution; ppi stands for pixels per inch; it refers to units of measurement for digi-tal images. The terms dpi and ppi are often used interchangeably.

EMF: Enhanced MetaFile, the 32-bit file format created by Microsoft Windows.

EPS: Encapsulated postscript, the file for-mat created by Adobe with vector (line art data only; therefore, it can be scaled with no loss of quality) and raster (bitmap data that cannot be scaled or edited) options; EPS files normally include a low-resolution screen preview.

GIF: Graphics Interchange Format, a lossy compression algorithm; supports 1-8 bit depth, 256 index color only; suitable pri-marily for Web images.

Grayscale: A continuous-tone image comprising black, white, and gray data only.

JPG (or JPEG): Joint Photographics Ex-pert Group, a lossy compression algo-rithm that allows you to adjust the amount of loss, trading between compression and quality.

Lossy: Image compression that func-tions by removing minor tonal and/or color variations, causing visible loss of detail at high compression ratios.

Non-lossy: Image compression with-out loss of quality.

LZW compression: Lempel-Ziv-Welch (not a file format): Non-lossy compres-sion algorithm that allows for compres-sion of image data without loss of quality.

MOV: QuickTime video file format.

MPEG: Moving Pictures Expert Group, a digital video file format.

PCT (or PICT): Mac graphics file format most commonly used for bitmap images.

PDF: Portable Document Format, the file format of Adobe's Acrobat specification.

PNG: Portable (Public) Network Graphic file format.

PSD: Photoshop (Adobe) file format.

Raster: A digitized image that is map-ped into a grid of pixels; therefore, the image is resolution-dependent; the color of each pixel is defined by a specific number of bits.

RGB: An additive color model based on red (R), green (G), and blue (B) light; RGB is used by computers, televisions, and film recorders to display colors; mixing equal amounts of red, green, and blue light will produce white light.

sRGB: A color profile with a very limited amount of color values, primarily designed for vivid images displayed over the Inter-net. Not suitable for print reproduction.

TIFF (or TIF): Tagged Image File For-mat, a common and portable file format for saving bitmap scans; does not compress data but offers LZW compression option; use-ful for moving files between Macintosh and PC platforms.

Vector: Resolution-independent graphic image that can be defined by mathemati-cal equations and scaled with no loss of quality.

webRGB: A color profile with a very lim-ited amount of color values, primarily de-signed for vivid images displayed over the Internet. Not suitable for print repro-duction.

WMF: Windows MetaFile, a file format created by Microsoft Windows.

XLS: Microsoft Excel file format.

http://jama.jamanetwork.com/data/ifora-forms/jama/jamatechreqfigures.pdf

When to Present Data in Graphs

- Show trends and patterns in the data.
- Paint an interesting picture and make a visual impact.
- Reveal relations between variables in the data.

Singapore Med J 2009;50:245-9

Basics of a Good Graph

1. It draws attention to the data and not the graph itself.
2. The data points (symbols) and connecting lines are easy to read and distinguish.
3. Both the numbers and labels for the axes are readable and their meaning is clear.
4. The lengths of the 2 axes are visually balanced (ratio of *x axis to y axis 1.0 to 1.3).*
5. The scales used on each axis match the range of the data.
6. Tick marks are used appropriately.
7. The legend is clear and concise.
8. The reader can understand the message without referring back and forth to the main text.
9. The data deserve to be graphed.

Clin Chem 2010;56:1229-33

Choosing the Correct Graph Type

- If independent and dependent variables are numeric, then use line diagrams or scattergrams
- If only the dependent variable is numeric, then use bar graphs
- For proportions, use bar graphs or pie charts.

Singapore Med J 2009;50:245-9

Scattergram

- It is used to present measurements on two or more variables that are related; the values of the variables on the y-axis are dependent on the values of the variable plotted along the x-axis.

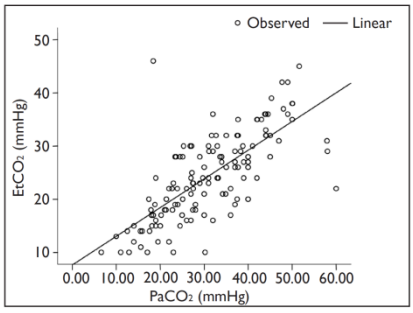


Fig. 1 Scattergram shows the relationship between the end-tidal and arterial carbon dioxide.
n = 133; r = 0.73; p < 0.001

Singapore Med J 2009;50:245-9

Line Graph

- It is similar in some ways to the scattergram, with the condition that the values of the x variable have their own sequence.
- Those values represent a continuous variable, such as time, temperature or pressure.
- It may display several dependent variables on the same graph.

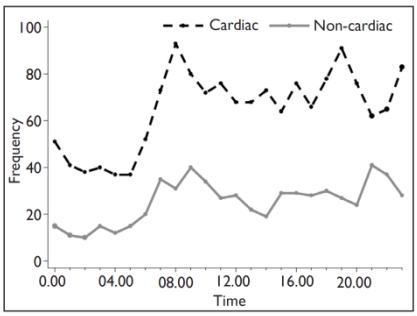


Fig. 2 Graph shows the hourly frequencies of out-of-hospital cardiac arrest patients in a 24-hour cycle.

Singapore Med J 2009;50:245-9

Bar Graph (Chart)

- It may either be horizontal or vertical (column graph).
- An important point about bar graphs is the length of the bars: the greater the length, the greater the value.
- It is used for discrete, grouped data of ordinal or nominal scale.
- It is useful for visual comparisons of data or for showing trends in the data and are most informative when you are more interested in the actual value of a variable than its CI.

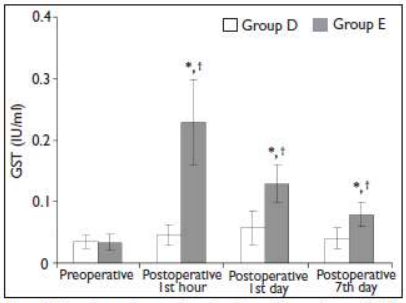


Fig. 3 Bar chart shows the glutathione-S-transferase (GST) levels (mean ± SD).
* $p < 0.05$ when compared to the Group E level
† $p < 0.05$ when compared to the preoperative level

Singapore Med J 2009;50:245-9
Clin Chem 2010;56:1394-400

Histogram

- It is a specialised type of bar graph that resembles a column graph but there are no gaps between the columns.
- It is used to represent data from the measurement of a continuous variable.
- Individual data points are grouped together in classes to show the frequency of data in each class.
- The frequency is measured by the area of the column.

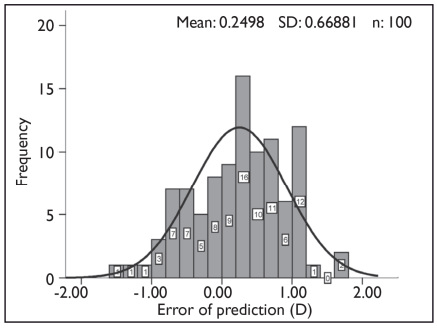


Fig. 4 Histogram shows the postoperative range of errors of prediction.

Singapore Med J 2009;50:245-9

Pie chart

- It shows classes or groups of data in proportion to the whole data set.
- The entire pie represents all the data, while each slice or segment represents a different class or group within the whole.
- Each slice should show significant variations.
- The number of categories should be small (between three and ten), most understandable if the number of categories is limited to 6 or fewer.
- It is most accurate when all available data or possible outcomes are included.

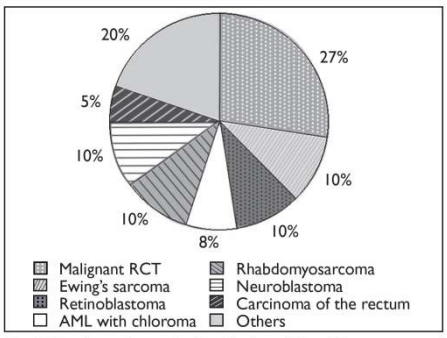


Fig. 5 Pie chart shows the distribution of the different types of tumours.

Singapore Med J 2009;50:245-9
Clin Chem 2010;56:1394-400

Box plot

- It may be either horizontal or vertical.
- It is used to display a statistical summary of one or more variables: minimum, lower quartile, median, upper quartile and maximum.
- It may also indicate which data might be considered as outliers.
- The spacing between the different parts of the box indicate the degree of dispersion (spread) and skewness in the data.
- This helps in visualising the type of data distribution, whether symmetrical or skewed.

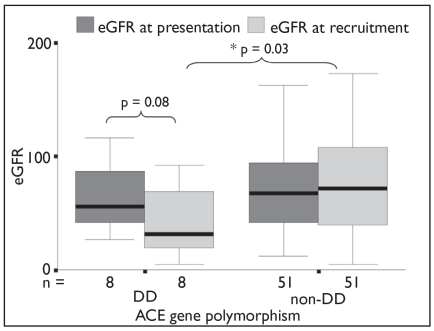


Fig. 6 Boxplot shows the angiotensin-converting enzyme gene polymorphism and disease progression in the DD and non-DD patients.
eGFR: estimated glomerular filtration rate; DD: deletion/deletion genotype
* p-value is statistically significant

Singapore Med J 2009;50:245-9

Common Errors in Graphs

1. Information in the text is duplicated in graphs, or information in graphs is duplicated in tables.
2. The graph does not have proper legends.
3. The wrong type of graph is chosen to represent the data.
4. The graph is not plotted to scale. Data is not labelled, is inconsistent, interrupted, or exaggerated to produce the desired effect.
5. The source of previously-published data is not credited.
6. The misuse of pseudo three-dimensional graphs.

Singapore Med J 2009;50:245-9

General Guidelines for Preparing Graphs

1. Prepare the results and data of the study before drafting the graphs.
2. The flow of the graphs should tell a logical story.
3. Choose the appropriate graph type to match the study data.
4. Design, provide legends and label the graphs carefully so that they are clear and easy to understand.

Singapore Med J 2009;50:245-9

Preparing Effective Illustrations
Photographs, Images and Diagrams

1. Illustrations provide visual information.
2. Effective illustrations improve the readability of a scientific paper as they make a visual impact.
3. Prepare legends and label illustrations clearly so that they are easy to understand.
4. Submit illustrations in a format that will provide high-quality reproduction.

Singapore Med J 2009;50:245-9

General Technical Requirements

1. File formats

- Files should be saved in either TIFF or EPS formats. Other image file formats, e.g. JPG, GIF, BMP, and Microsoft PowerPoint slides, are compressed and many details may be lost.
- If the image cannot be saved in TIFF or EPS, it may be saved in JPG at the highest resolution; but this should be considered only as the last resort.
- It is suggested that TIFF be used for halftone figures, i.e. medical images such as radiographs and MR images, etc; and EPS for drawn artwork, i.e. line drawings and graphs.

Singapore Med J 2009;50:245-9

Image File Formats of Interest to Authors

File Format	Pertinent Application
DICOM	PACS
JPEG	PowerPoint, web-based display
TIFF	Print output, journal publication
PSD	Print output, when arrows or labels are necessary
GIF	Web-based display
EPS	Vector graphics
PDF	Distribution, web-based or otherwise
PICT	Some Macintosh applications use this format though it is largely replaced by the other formats
PNG	New format, may replace JPEG eventually

Note.—PICT = PICTure; PNG = portable networks graphics; PSD = PhotoShop document.

Abbreviation: DICOM=Digital Imaging and Communications in Medicine, PACS=picture archiving and communications system, JPEG=Joint Photographic Experts Group (file format), TIFF=tagged image file format, PSD=PhotoShop document, GIF=graphic interchange format, EPS=encapsulated postscript, PDF=portable document format, PNG=portable networks graphics

J Vasc Interv Radiol 2003; 14:1223–1229

General Technical Requirements

2. Image resolution

– Files should be saved at the appropriate dpi (dots per inch) for the type of image. Lower resolutions will not be usable. It is recommended that the minimum resolution for halftone and colour work is 300 dpi, and that for line drawings and scanned images is 600 dpi.

Singapore Med J 2009;50:245-9

Representative File Sizes for a 5-inch 7-inch Image*

Color Mode	File Type	Spatial Resolution (dpi)	Pixel Matrix Dimensions	Digital File Size
RGB	TIFF	300	1500 × 2100	9 MB
Grayscale	TIFF	300	1500 × 2100	3 MB
RGB	TIF	72	360 × 504	540 KB
Grayscale	TIFF	72	360 × 504	184 KB
Grayscale	JPEG	72	360 × 504	8 KB

* Sizes are computed based on an 8-bit grayscale image.

J Vasc Interv Radiol 2003; 14:1223–1229

General Technical Requirements

3. File delivery

– All figure parts should be sent as separate images (and not combined); as figure arrays will be done by the journal. Figures should also be loaded as separate files, particularly for manuscripts with a large number of figures. In addition, it is recommended that for multi-part figures, one file is created for each figure, with all parts included in the same file.

Singapore Med J 2009;50:245-9

General Technical Requirements

4. Additional requirements

- If a graph or illustration was created in Microsoft Excel or Word format, it is recommended that the original file be submitted in the native format (.xls for Excel, .doc for Word), which can then be rendered as high-resolution images by the publisher.
- A movie is a new type of illustration that may be submitted as a supplementary file to those journals that accept them. Movie files may be encoded in different formats, depending on the required technology to view them. Common formats include MOV, MP4, and AVI. The specific journal's "Instruction to Authors" should be consulted before deciding which format the movie should be encoded in.

Singapore Med J 2009;50:245-9

Line Drawing

- Flow chart, algorithm, schematic diagram, chemical structure

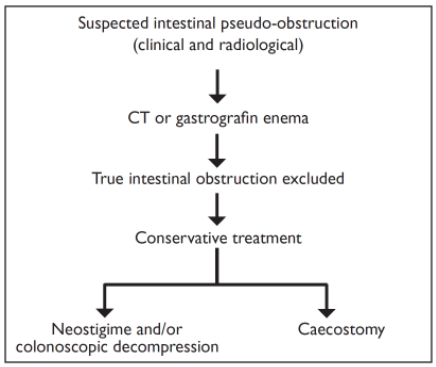


Fig. 6 Flow chart shows the suggested plan of managing a suspected case of intestinal pseudo-obstruction.
(Reproduced from Singapore Med J 2009; 50(3):237-244)

Singapore Med J 2009;50:245-9

Common Errors in Illustrations

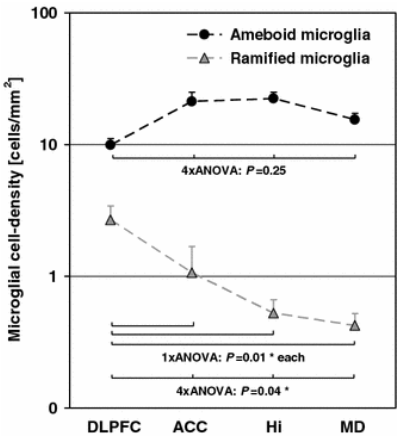
- Photographs show much more than the relevant parts, i.e. extraneous material.
- Patients or subjects can be clearly identified in the photographs and images.
- Authors' names and affiliations appear on the images.
- Photographic/halftone figure scans are embedded in a Microsoft Word document, causing significant pixel resolution to be lost.
- Annotations on the figures are too small or are illegible.

Singapore Med J 2009;50:245-9

Artwork preparation

HTTP://WWW.SPRINGER.COM/AUTHORS/MANUSCRIPT+GUIDELINES?SGWID=0-40162-12-331200-0

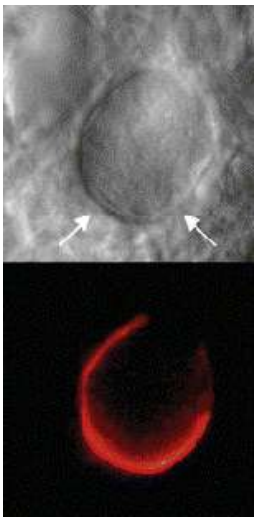
Line Art



- Definition: Black and white graphic with no shading.
- Do not use faint lines and/or lettering and check that all lines and lettering within the figures are legible at final size.
- All lines should be at least 0.1 mm (0.3 pt) wide.
- Scanned line drawings and line drawings in bitmap format should have a minimum resolution of 1200 dpi.
- Vector graphics containing fonts must have the fonts embedded in the files.

Springer Manuscript Guideline – Artwork
http://www.springer.com/authors/manuscript+guidelines?SGWID=0-40162-12-331200-0

Halftone Art



- Definition: Photographs, drawings, or paintings with fine shading, etc.
- If any magnification is used in the photographs, indicate this by using scale bars within the figures themselves.
- Halftones should have a minimum resolution of 300 dpi.

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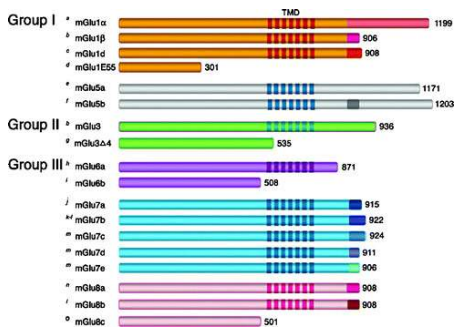
Combination Art



- Definition: a combination of halftone and line art, e.g., halftones containing line drawing, extensive lettering, color diagrams, etc.
- Combination artwork should have a minimum resolution of 600 dpi.

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Color Art

- Color art is free of charge for online publication.
- If black and white will be shown in the print version, make sure that the main information will still be visible. Many colors are not distinguishable from one another when converted to black and white. A simple way to check this is to make a xerographic copy to see if the necessary distinctions between the different colors are still apparent.
- If the figures will be printed in black and white, do not refer to color in the captions.
- Color illustrations should be submitted as RGB (8 bits per channel).

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Figure Lettering

- To add lettering, it is best to use Helvetica or Arial (sans serif fonts).
- Keep lettering consistently sized throughout your final-sized artwork, usually about 2–3 mm (8–12 pt).
- Variance of type size within an illustration should be minimal, e.g., do not use 8-pt type on an axis and 20-pt type for the axis label.
- Avoid effects such as shading, outline letters, etc.
- Do not include titles or captions within your illustrations.

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Figure Numbering

- All figures are to be numbered using Arabic numerals.
- Figures should always be cited in text in consecutive numerical order.
- Figure parts should be denoted by lowercase letters (a, b, c, etc.).
- If an appendix appears in your article and it contains one or more figures, continue the consecutive numbering of the main text.
- Do not number the appendix figures, "A1, A2, A3, etc." Figures in online appendices (Electronic Supplementary Material) should, however, be numbered separately.

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Figure Captions

- Each figure should have a concise caption describing accurately what the figure depicts.
- Include the captions in the text file of the manuscript, not in the figure file.
- Figure captions begin with the term Fig. in bold type, followed by the figure number, also in bold type.
- No punctuation is to be included after the number, nor is any punctuation to be placed at the end of the caption.
- Identify all elements found in the figure in the figure caption; and use boxes, circles, etc., as coordinate points in graphs.
- Identify previously published material by giving the original source in the form of a reference citation at the end of the figure caption.

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Figure Placement and Size

- When preparing your figures, size figures to fit in the column width.
- For most journals the figures should be 39 mm, 84 mm, 129 mm, or 174 mm wide and not higher than 234 mm.
- For books and book-sized journals, the figures should be 80 mm or 122 mm wide and not higher than 198 mm.

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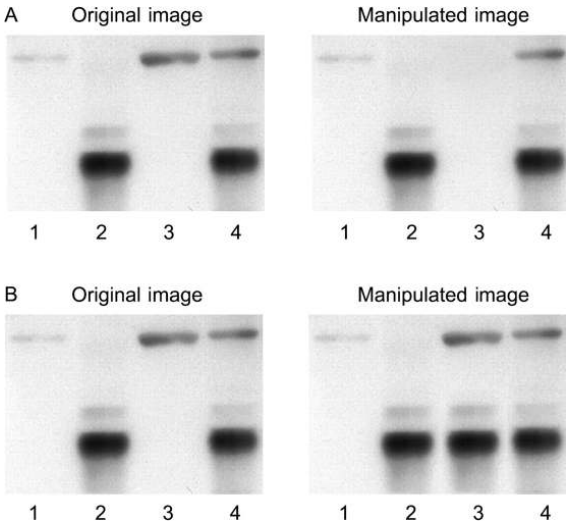
JCB 2004;166(1):11-15

WHAT'S IN A PICTURE? THE TEMPTATION OF IMAGE MANIPULATION

JCB

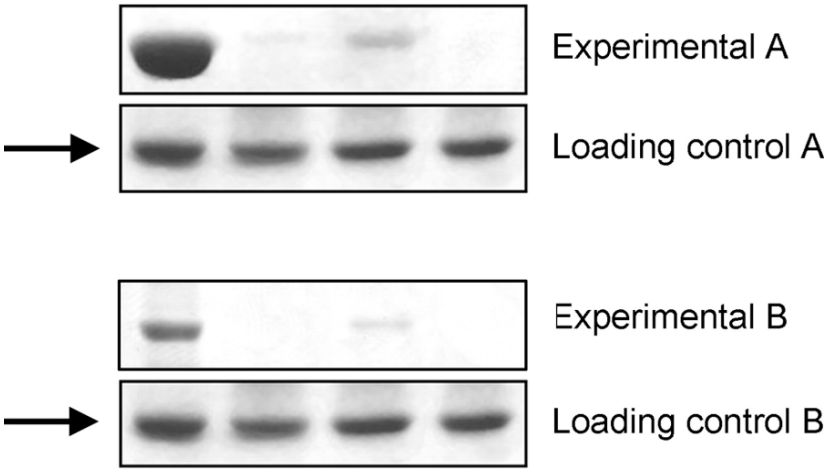
Gross manipulation of blots.



Rossner M, Yamada K. JCB 2004;166:11-15

JCB

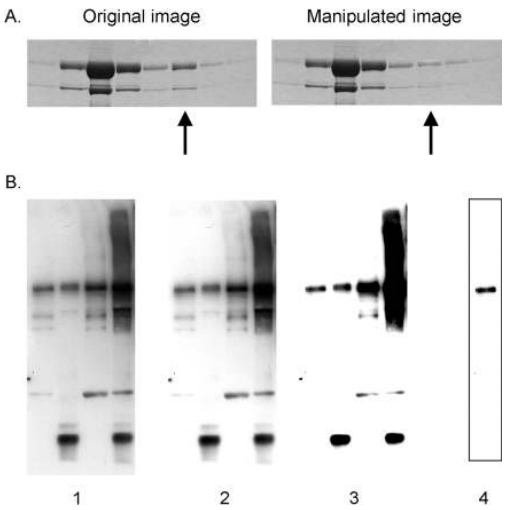
Gross manipulation of blots.



Rossner M, Yamada K. JCB 2004;166:11-15

JCB

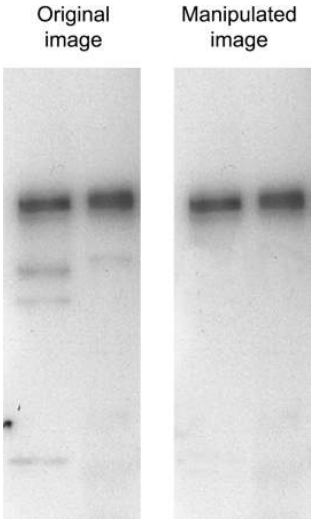
Manipulation of blots: brightness and contrast adjustments.



Rossner M, Yamada K. JCB 2004;166:11-15

JCB

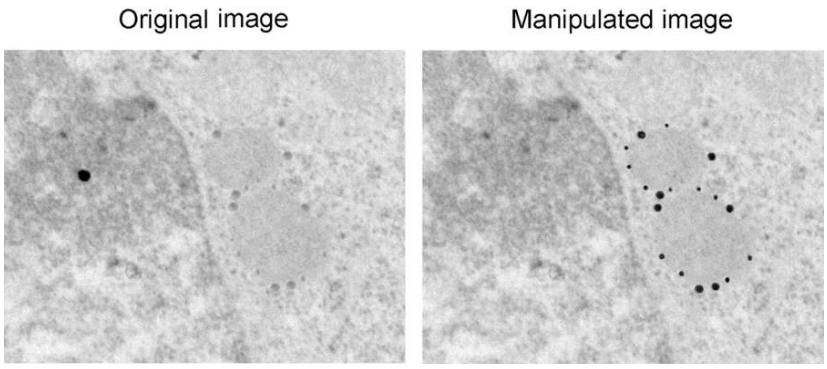
Manipulation of blots: cleaning up background.



Rossner M, Yamada K. JCB 2004;166:11-15

JCB

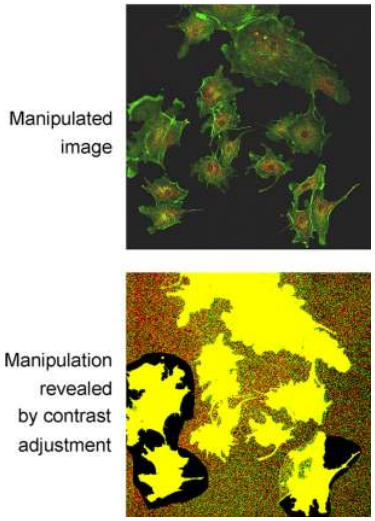
Misrepresentation of immunogold data.



Rossner M, Yamada K. JCB 2004;166:11-15

JCB

Misrepresentation of image data.



Rossner M, Yamada K. JCB 2004;166:11-15

JCB

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