# 영어 논문 작성시 유의사항

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# 1. 투고전에

# 가. 투고규정 정독

투고할 잡지를 정하고, 규정에 맞출 것. ...Impress the editor!

# Lt. General rules for preparing manuscripts

- A4 paper; double space; wide margin, 2.5 cm
- start each section on new sheet.
- start pagination from the title page.
- tables and figures: numerated and put together at the end,

  Mark the spot where those are to be put, either on the

  right margin or in the text, for example:

예: (Fig. 5 near here)

- legends: put together on a separate sheet
- Formats for references (Harvard style or Vancouver style)

### 다. Style of listing reference

#### \* Harvard style:

예 : Barbee, R.W. and Trippodo, N.C.: The contribution of atrial natriuretic factor to acute volume natriuresis in rats. Am. J. Physiol. 253: F1129-F1135, 1987.

Cooper, J.R., Bloom, F.E. and Roth R.H.: The Biochemical Basis of

Neuropharmacology. 5th ed., Oxford Univ Press, New York, pp. 315–350, 1986.

# \* Vancouver style:

"International Committee of Medical Journal Editors" met in Vancouver, Canada, in January, 1978, and decided on "Uniform Requirements for Manuscripts to Biomedical Journals".

예: Barbee RW, Trippodo NC: The contribution of atrial natriuretic factor to acutevolume natriuresis in rats. Am J Physiol 1987:253:F1129-1153.

Dausset J, Colomani J, eds. Histocompatibility Testing 1972. Copenhagen, Munksgaard, 1973:12-8.

\*\* 정상 우편 외에도 Manuscript의 e-mail을 요구하는 경향이 커지고 있음

# 2. 구독법(句讀法 Punctuation) — 작문의 ABC

# 가. Start with capital letter and end with period

- \* Use of capital letter: trade names; proper names; etc.
- \* Small letter: c.g.s. unit (except L for liter; Eq); km, m, cm, mm, g, kg, min, sec, msec, etc.; generic names of chemicals

### Lt. Putting spaces

(no space <u>before</u> the following punctuations; but, put a space <u>after</u> them!)

Bad examples: .....the following; but...
.....the following,but...
.....the following ,but...
.....as follows :a, b, c, etc.
.....as follows : a, b, c, etc.

### Cł. Period

- \* Marking the end of sentence
- \* <u>Indication of abbreviation:</u> et al. (= et alibi)

W.C. (or WC; not W.C; nor WC.); K.O.; D.C.

\* Omitting the period: Heading (아래 例); 원소기호; NATO, WHO 등

#### Treatment

Patients should be given.....

Treatment. Patients should be given.....

# 라. Comma

- 1) Uses of Comma 가장 짧은 휴지(休止)
  - \* 가장 쉽게 사용되나, 가장 틀리기 쉬운 것임.
  - \* 독립절(獨立節)을 도입하는 접속사(接續詞) 앞에 쓴다.
  - \* 독립절 끼리 연결할 때는 안 쓴다. Semicolon을 쓴다.

# 2) 잘못 삽입한 경우

# 가) 주부(主部)(특히 긴 경우)와 술부(述部) 사이:

The problem of finding sufficient accommodation for aged people who have no relatives to look after them and are incapable of looking after themselves, will become more acute as the years go by. (x)

# 나) 탈격독립구(奪格獨立句) (ablative absolute [latin])중:

The rain, having stopped, the patients were allowed out. (x)

# 다) "and" 나 "or"로 갈라진 구(句)가 짧을 때:

- (o) He understood what I said and answered coherently.
- (o) He would like to get out of bed or at least sit up.
- (x) The pandemic of influenza reached England in August 1989, and spread to the north by September.

\*\* but는 comma요함 (짧은 문장에서는 생략할 수도 있음).

He would like to get out of bed, but the sister will not let him.

(He will suffer but he will recover.)

# 라) "between" 과 "and"의 사이:

(x) This book is an attempt to bridge the gap between the old attitude of fear, and the new attitude of understanding towards the mentally ill.

### 3) 잘못 생략한 경우

- \*\* parenthetic clause의 전후에는 반드시 필요함
  - (x) It is possible, therefore, if not certain that the failure to understand...
- 4) 잘못 사용 (When heavier stops are needed)
  - \*\* Comma로 갈라진 절(節)은 서로 의미상 밀접한 관계가 있어야 함.

The man is still living and co-operative, the hemiplegia remains the same.

(앞節은 일반상태; 뒷節은 장해상태) (여기에는 semicolon이 적합함)

Constipation may exist between such attacks, intermittent nausea and vomiting may be a main feature.

# 5) 의미에 미치는 Comma의 효과

한정절(限定節)과 비한정절(非限定節)

(Defining and Non-defining Clauses)

"The day after, the resident removed the stitches"

"The day after the resident removed the stitches"

"Nurses who are careless forget to sterilize needles"

"Nurses, who are careless, forget......"

"In one of these who died of heart failure two years later a small cyst of..." (x)

- 6) Optional Use of Commas
  - 가) With conjunctions.

- \*\* "however" always needs comma.
- \*\* "therefore"는 구문(構文)에 따라

"We therefore believe that..." 또는

"We believe, therefore, that..."

\*\* "and" 와 "or"의 경우에는, 긴 문장에서는 바람직함.

"If he has recovered from the severe attack of vomiting which he had when last I saw him, and if he is thought fit to stand the long journey, he may go home."

- 나) After adverbial clauses
  - \*\* 문두(文頭)의 짧은 부사구(副詞句)뒤에는, 강조하고자 할 때 可함.

Formerly, it was the practice...

\*\* 주절(主節)앞에 긴 부사절(副詞節)이 올 때는 불필요하나 붙여도 可함.

When the patient has recovered from the operation

he may go home.

\*\* 그러나 이것이 주절(主節)뒤에 올 때는 不可.

The patient may go home when he has recovered...

- 다) With a series of adjectives
  - \*\* 2개 이상의 형용사가 명사 앞에 올 때는 마지막 형용사 뒤에는 comma 붙이지 않음. A pale, thin man.
  - \*\* 술부(述部)에 있을 때는 사고(思考)의 변화가 없는 한 안 붙임.

He was truculent, insolent and blasphemous.

He was truculent, insolent, and unable to toe the line.

- 라) With a series of nouns
  - 이론(異論)이 있는 점 2가지:
  - (a) 최후의 명사 뒤에 comma를 넣을 것인가?
  - \* Fowler: "Every man, woman, and child, was killed."

(이는 主部와 述部사이에 comma가 있음!)

\* Carey : 최후의 명사 앞에 "and"가 있으면 생략, 없으면 삽입 해야한다고 주장.

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ex: "The fever, malaise, and headache are characteristic."

"Exophthalmos, tachycardia, tremors, enlargement of the thyroid, were all present."

- \* Roberts: 최후의 명사뒤의 Comma는 항상 생략해야 한다.
- (b) 최후의 두 명사 사이에 and와 함께 comma를 넣을 것인가?
- \*\* 생략하면 애매해지는 경우가 있음.

"Among the exhibitors were Evans Medical, May and Baker and Glaxo."

"Epileptic states, the psychoses, the neuroses and their treatment are fully discussed."

\*\* Webster : 보통 and 또는 or 앞에 comma를 넌다. 그러나 짧은 series의 경우는 때로 생략된다.

### □ł. Semicolon

1) Uses of semicolon

논지(論旨)의 연속성을 유지하고, 두 문장(文章)간의 관계를 이해하는데 도움을 준다. 즉, period로 끊기에는 너무 밀접하고 comma로 연결하기에는 소원(疎遠)한 관계를 나타낸다.

"...functions as a weak period or as a strong comma" (Webster)

Ex: Too often the tablets are allowed to become stale and inert from storage; they should be fresh.

A fool babbles continuously; a wise man holds his tongue.

- \*\* 둘째 절이 다음과 같은 conjunctive adverb로 시작할 때:
  accordingly, also, consequently, furthermore, hence, however, indeed,
  moreover, nevertheless, otherwise, so, still, then, therefore, thus, yet.
  His conduct has always been exemplary; nevertheless, he will not be
  permitted to go.
- 2) Semicolon으로 너무 강할 때는 comma로 끊거나 아주 없앤다.

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It was situated in the hypochondrium; and it was not relieved by food or alkalies. (둘째 "it"도 제거)

- 3) Semicolon이 들어있는 문장이 너무 길거나 that의 내용이거나 할 때는 semicolon으로는 불충분함. Period로 끊는다.
  - R. et al. found that the serum of patients with lymphadenoid goiter contained an antibody to the patient's own thyroglobulin; and postulated that the destruction of the thyroid results from the progressive interaction of thyroglobulin in the gland with the auto-antibody present in the patient's circulation.
    - ( → ...patient's own thyroglobulin. They postulated...)
- 4) 긴 문장에서는 작은 절은 comma로 나눠지나, 크게 구분하고자 할 때에는 semicolon을 사용한다.

# 바. Colon

\*\* Period와 semicolon사이에 들어간다고 생각하는 것은 틀리다.

Learning does not deal with external knowledge alone: we have to revalue our own capacity for handling experience.

(→ ... alone; we...)

The question which system is best, Dr. X thinks, is academic: it depends on what one wants. (→ ... academic; it...)

- \*\* Bible에는 colon 과 semicolon이 혼동되어 있음.
- 1) The uses of the colon are
  - 가) 윗줄 같이 나열할 때
    - Ex.: We used the criteria for ECG evidence of myocardial ischemia: large Q waves, flattening or inversion of T waves, and depression of the ST segment at rest or after exercise.

(viz., 또는 namely 등으로도 대체 可함. 그러나 이들과 colon을 함께 쓰지는 않음. "the following"이나 "as follows" 뒤에는 반드시 colon을 붙인다.)

- 나) 인용문(引用文)을 도입할 경우
- 다) 일반적 서술(敍述) 후에 특수서술(特殊敍述)을 가져올 때

Patients with manic-depressive reaction showed relatively rapid rates of departure and discharge: more than 60% of single and over 75% of the ever-married [sic] left during the first three months. (sic = 원문대로)

#### 2) Other uses

- 가) Rate의 표시 (versus의 뜻): final score 1:3 (전후를 뗀다).
- 나) 시간의 표시: 10:30 a.m. 22:15 2:08:52 (붙여 쓴다).
- 다) Formal salutation in a letter or address 후에: Dear Sir:

# 사. 괄호 Parenthesis

- \*\* 괄호 앞뒤를 뗀다. (put space before and after)
  - \* 한글과의 차이점: 한글에서는 괄호 앞뒤를 붙혀 쓴다.
- \*\* 괄호 안에는 떼지 않는다.
- 1) Use of parenthesis
  - 가) 참조: Jones and Smith (1992) found that...
  - 나) 다른 표시법이 있을 때: His temperature was  $100^{\circ}$ F (37.8°C).
  - 다) 상술(詳述)시:

The mesenteric glands of all three groups (juxtaintestinal, intermediate, and terminal) were enlarged.

- 라) 본제(本題)와 관련이 적어 comma로 연결하기 어려울 때:
  - Only recognized changes of acute myocardial infarction (fully defined and classified in the report) should be accepted as evidence of coronary-artery disease.
- 마) Comma로 분리된 list의 각항(各項) 사이
  - It consists of amino-acids (the importance of which was first stressed by Evans), salts, glucose, vitamins, and hypoxanthine.
- 2) Stops with brackets

괄호로 묶은 문장이 문미(文尾)에 오면 period는 대개 괄호 뒤에 찍는다.

예외로 그 문장에 꼭 따라야할 때는 괄호 안에 올 수도 있다.

3) Square brackets (각괄호, 角括弧)

각괄호 내의 단어는 인용자(引用者)가 설명하기 위한 것이고, 인용문의 일부가 아닌 경우에 쓴다.

A decline in the plasma levels of individual protein fractions [in the nephrotic syndrome] almost bears a relationship to their urinary clearances.

### 아. Dash

실질적으로 괄호(括弧)와 같은 역할. 단, 강조에는 dash가 더 효과적임.

또 Comma로도 대체 가능한 경우가 있다.

- (1) The risk of operation and they are serious must be taken.
- (2) The risk of operation (and they are serious) must be taken.
- 1) 상술(詳述)할 경우:

The increase - \$3 million - was foreseen in the estimate.

2) 추가사고(追加思考)의 일종으로서:

There have been many remarkable developments in some of the old problems — intermediary metabolism, for example.

# 자. Hyphens

(명확히 해야할 경우 이외에는 생략하는 경향이 있음).

- 1) Uses of hyphens
  - 가) 명사의 복합어: ankle-jerks, birth-rate, blood-flow
  - 나) 접두사(接頭辭)가 모음(母音)으로 끝나고 이어 또 같은 모음으로 시작할 때 re-examine, intra-abdominal, co-operative
  - 다) 너무 긴 단어가 아니면, 다른 모음일 때는 hyphen 안 씀. periarteritis, hemianopia, intervertebral
  - 라) non 뒤에: non-toxic
  - 마) 일반적이 아닌 단어: restenosis → re-stenosis
- 2) Floating hyphen

It measured five- or six-eights. (x)

It measured five-eights or six-eights.(o) pre and postoperative (x)

# 3) 형용사적으로는 可하나, 부사적으로는 不可:

He made a post-mortem examination.

It was found post mortem.

sugar-free diet; three-year-old girl

# 4) 부사와 분사로 이루어진 형용사 사이:

"A little-used instrument"와 "a little used instrument"

\*\* 형용사를 이루고 있지 않으면 분리한다.

"This instrument is little used."

# 5) 명사와 동명사 사이:

In addition to history taking... (history-taking)

# 차. Apostrophe

\* 소유대명사는 apostrophe를 취하지 않는다.

This book is hers. (her's -x) its -it's

\* 복수: mothers' helps; patients' breakfast

그러나 s로 안 끝나는 것은 children's ward; women's ward

\* s로 끝나는 단수형은 's를 붙인다. St. Thomas's; Malthus's,

예외로는 Socrates'; Graves' disease.

\* 형용사적으로 쓰이는 복수명사에는 자유롭다.

A three days history, or A three days' history,

\* 2인 이상의 소유자가 있을 경우:

Jones and Smith's findings show .... (x)

The findings of Jones and Smith show... (o)

# 카. Exclamation marks & Question marks:

과학논문에는 감탄부(感歎符)를 사용할 필요가 없고, 간접화법의 의문에는 의문부

(疑問符)를 붙이지 않는다.

# 3. Review of Grammar

# 가. 명사 Nouns

- 1) Number & False Concord
  - 가) 두 개의 주어가 있으면 동사는 복수형
    - \* The instruction and use of unnecessary jargon seems...
    - (→ The instruction given and the use of unnecessary jargon seem...)
    - \* The objective of medical education are not always very sharply in focus.
  - 나) 딴 어군(語群)이나 단어에 주의(注意)가 팔린 경우:
    - \* The statement implies that the maturity and understanding of marital problems is something picked up as the years roll by.
  - 다) 너무 많은 내용을 기술하려다 혼동하는 경우:
    - \* The smallness of this group proves that the virtual elimination of eclampsia and halving of the number of cases of hypertension associated with proteinuria (over a period of ten years) has not been achieved by frequent resort to the induction of premature labor.
      - (→ Over a period of ten years eclampsia has been almost eliminated and hypertension associated with proteinuria halved. These results, as the smallness of this group proves, have not been achieved by frequent induction of premature labor.)
  - 라) 간접 표현을 쓰다가 혼동:
    - \* In September there was found a sharp, systolic murmur at the apex of the dilated heart, moist rales at the apex of both lungs, a firm palpable liver and spleen.

- \* One out of twelve people in this country will be admitted to a mental hospital during their lifetime.
- 마) 같은 문장 중에 단수와 복수를 함께 쓰면 안 된다.
  - \* These recommendations no longer include precise details but urges schools to find means.
- 바) "and"로 이어진 두 개의 주어가 있을 때, 주어가 실질적으로 동일할 때는 동 사가 단수일 수도 있다.
  - \* Complete rehabilitation of paraplegic patients and their full reintegration into society is possible if....
- 사) 단수명사 뒤에 with, together with, as well as 등이 오면 동사는 단수
  - \* The vomiting as well as the diarrhea has improved.
- 아) 주어와 보어가 교환 가능할 때는 선행하는 명사와 일치한다.
  - \* More nurses are the only remedy.

    The only remedy is more nurses. (단: 의문문에서는 뒤따르는 명사와 일 치한다. What strength are the solutions?)
- 자) None ... 단수형이나 복수형이나 가능. 그러나 복수형이 일반적임.
  - \* Eight deaths occurred among the 48 patients, none of which was due to mercury. (... of the 8 deaths none was due to mercury)
- 차) One or more 는 복수형
- 카) More than one (명사가 따르면 단수, 그 외에는 복수) More than one attack is rare. More than one attend every day.
- 타) 열거한 것을 否定할 때는 단수형:
  - \* There was no abnormal bleeding, gastro-intestinal disturbance, or other toxic or undesirable effects.
- 2) Abstract Nouns & Collective Nouns
  - 가) 상태 또는 조건을 나타내는 명사는 단수 (예외도 있음)
    - \* The parenthesiae in the hands were not relieved. (x)
    - \* Patients with a low tolerance of discomforts and frustrations are

those likely to be addicts.  $(x) (\rightarrow discomfort and frustration)$ 

- \* With large doses <u>deliria</u> with auditory and visual hallucinations may occur. (x) ( $\rightarrow$  delirium *or* periods of delirium)
- 나) 상태를 나타내는 명사에는 부정관사를 붙이지 않는다.
  - A delirium may follow withdrawal. (x)
- 다) genetics, physics, orthopedics, pediatrics 등은 단수

#### 3) Collective nouns

- 가) "committee", "group", "number", "council"등은 단수, 복수 모두 가능
  - \* A committee was appointed.
  - \* The committee were unable to agree.
  - \* The committee recommends that...
  - \* The committee is firmly of the opinion that....
  - \* A group of euthyroid patents of different ages were reviewed.
- 나) Series는 단수: This series is instructive.
- 다) Number. 복수주어의 일부일 때는 복수, 개별의 권리를 주장할 때는 단수
  - \* A large number of epileptics attend daily.
  - \* The number of epileptics is small.

# 4) Personal Pronouns

- 가) he, she, they, it 등의 인칭대명사(人稱代名詞)의 수는 선행사(先行詞)와 일치
  - \* Nansen spent three years of his life drifting across the North Polar ice, one of it with a single companion. (year? or ice?)
  - \* The perinatal mortality cannot be kept to a minimum unless amniotomy is regarded a serious surgical operation to be performed by an experienced operator in the operating theater; neither can it be achieved without the use of the physiological oxytocin drip.

    (—...theater; and unless the physiological oxytocin drip is used.)
- 나) One은 I, he, she같은 대명사를 지칭하는데 써서는 안됨
  - \* As someone who has recently worked both in my teaching hospital and

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in a few peripheral hospitals I should like to comment on this subject. (→Having recently worked both ...)

- 5) Relative Pronouns & Subordinate Clause
  - 가) Who, which, that: 종속절((從屬節)의 주어가 될 때는 그 수와 인칭은 종속절의 주어와 일치해야하며, 주절의 주어와는 무관함)
    - \* Charles is one of those who advise gastrectomy
    - \* 비교: 1) The patient whom I saw yesterday.
      - 2) The patient whom I thought had appendicitis. (x)
        - (→ The patient who I thought had appendicitis.)
  - 나) 관계대명사는 그 선행사에 바로 따라 붙여야 한다 (삽입구를 넣지 말 것).
    - \* Dr. Smith spoke on the use of the vaginal speculum, without examination by which he regarded no gynecological examination as complete.
      - (S. spoke on the use of the vaginal speculum which he regarded as an essential part of gynecological examination.)
  - 다) And who; and which
    - 이들이 이끄는 절은 1) 관계절에 뒤따를 때, 2) 두 개의 절이 같은 선행사를 가질 때에만 허용된다.
    - \* Patients with wounds discharging freely and who are not free from pain.(x)
    - (→ Patients whose wounds are discharging freely and who are not free from pain.)

Patients with freely discharging wounds who are.... (better)

\* The basis of this report is atherosclerotic occlusion of the first part of the subclavian artery in a patient which caused gangrene of the fingers of the left hand and in whom, after confirmation of the site of the block by aortography, thrombo-endarterectomy produced a dramatic improvement in the symptoms and signs. (x)

- (→ This report concerns a patient suffering from gangrene of the fingers of the left hand due to an atherosclerotic occlusion of the first part of the subclavian artery. Thrombo-endarterectomy, performed after the site of the block had been confirmed by aortography, dramatically improved the symptoms and signs.)
- 라) Repetition and omission of relative pronouns
- ① 비슷한 구조의 관계절일 때 2번째 것은 생략함
  - \* The man who is overweight and who has a high blood pressure,
    - (→ The man who is overweight and has.....)
- ② 그러나, and가 품사가 다른 단어를 연결한 것으로 보일 때는 생략 아니함
  - \* The present paper reports a method which is rapid and reproducible <u>and</u> permits the quantitative assay of fibrinolytic activity of whole blood within a few hours.
    - $(\rightarrow$  ...which is rapid and reproducible, and which permits...) (o) (...which is not only rapid and reproducible but also permits...) ( $\bigcirc$ )
- ③ 관계대명사가 절을 받는 것은 바람직하지 않다. (틀리지는 않으나)
  - \* The range of minimal and maximal values (i.e. of hemoglobin levels in old people) is greater than that seen in younger age-group which suggests that subjects were included who had diseases other than those common to the aging process.
    - (→ The range of minimal and maximal values of hemoglobin levels is greater in old than in younger people. This suggest that..)
  - \* Extensive chemical burns are fortunately rare, which speaks well for the safety precautions taken.(...are fortunately rare. This speaks well...)
- ④ who와 whom은 사람을, which는 물체를, that는 양쪽을 받는다. "patients"를 "cases"라고 하면 人格을 상실하므로 which로 받음 ("The patients whom...", "The cases which...")

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- \* Another term is required for cases in whom narrowing of the orifice follows an inadequate valvotomy. (x)
- 마) What (that which 또는 whose which, 즉 선행사와 관계대명사의 조합)
  - \* I know what (that which) you mean.
  - \* The figures quoted are far in excess of what has been found at autopsy. (→ ... in excess of those found...)
- ① 보어가 복수일 때, 단수 복수 모두 可 (controversial)
  - \* What <u>concerns</u> me is Crohn's disease, ulcerative colitis, and the rare entero-colitis. What <u>concern</u> me are...
    - The diseases that concern me are.... (better)
- 6) Defining and Non-defining clauses (한정절과 비한정절):

#### That 와 Which

- \* This is the house that Jack built. (O) (한정절임...생략 불가, 괄호에 못 넣음)
- \* This is the house which Jack built. (x) (비한정절... 생략, 괄호 가능)

#### Compare:

- a) The wards that were open to visitors were well ventilated.
- b) The wards which were open to visitors were well ventilated.
  - a) 면회자에게 개방되었던 병실은 환기가 잘되었다. (한정적) (즉, 다른 병실도 있는데 거기는 환기가 잘되는지 모른다)
  - b) 병실은 면회자에게 개방되어 있었는데, 환기가 잘되었다. (=The wards, which were open to visitors, were well ventilated.) Ex:
    - The present health insurance is a tax which, besides stimulating the wrong incentive, has proved disappointing finally.
    - The knee was normal apart from the occasional discomfort which the patient had experienced before. (...that it had previously

caused).

- In 1769, when Napoleon was born, Corsica had but recently been acquired by France.
- The audience, which had at first been indifferent, became more and more interested.
- People sitting in the rear couldn't hear. (Restrictive)
   Uncle Bert, being slightly deaf, moved forward (Non-restrictive).
- \* Restrictive clause 앞에는 comma를 안 쓴다.

# 나. 동사 Verbs

# 1) 시제 Tense

- 가) 동시에 일어난 2가지의 일은 같은 시제(時制)로 표현
  - \* Several factors might act together or separately, and different factors may produce the same end-result.
- \* Spontaneous bleeding occurs in cases of blood dyscrasia, and sometimes will result from tumor invasion.
- 나) 현재형은 확립된 진리를 기술할 때만 쓰고, 과거형과 같이 쓸 수 있다.
- \* He did not realize that the patient was moribund.
- \* He did not know that morphine can be used.
- \* This rise is not readily accounted for on a basis of marrow population, nor was it merely due to cessation of X-ray therapy.
  - (..nor is it...(o); This rise is not readily accounted for either by marrow population or by cessation ..... (better).
- 다) 단순과거 시제는 완결된 사상(事象)을, 현재완료 시제는 현재까지 계속되는 사 상을 표현
- \* The high incidence of anemia in women attending the antenatal clinics was recognized for many years. (지금은 아니다.) (→ has been...)
- \* It has been widely used and given much information on liver pathology as well as greatly improving the accuracy of diagnosis. (時制의 態의 혼란)

- 라) 다음의 경우 이중(二重) 과거시제는 피할 것
  - ① hope, fear, intend 등의 뒤에
    - \* He intended to have come  $\rightarrow$  He intended to come.
  - ② 과거조건문(過去條件文) 뒤에
    - \* I should have liked to have included. →....to include.

# Bad examples:

- \* I understand that when trichloroethylene was introduced, very little pharmacological evidence was accumulated.
- \* The influenza epidemic that started in Asia and had spread in a few months to both hemispheres...

# 2) Subjunctive Mood 假定法

가) 사실이 아니라 생각되는 행위나 상태를 나타내고, 희망, 요구, 권고 또는 우연적, 사설(假說)적, 예기(豫期)적인 일을 표현하는데 쓰인다.

# 두 가지의 특수 형태:

- ① "be" -- 현재시제의 모든 인칭, 단복수에 씀
- \* If he be.
- \* Be that as it may,
- \* I propose he be appointed.
- ② "were" -- 과거시제의 단수에 쓴다.
- \* If he were.
- \* Mr. Smith taunts me with the jibe that I am living in the past. I wish I was.  $(\rightarrow were)$
- 나) 그 외에는 조동사 "may, might, should, would"으로 직설법과 구분가능.
- 다) 조건절과 주절 모두 가정법으로 할 것
  - \* If I am completely uncertain which of the two courses to adopt, I might toss a coin. (am  $\rightarrow$  were).
  - \* If you would allow the choice of treatment to be made on a member of your own family....then it is quite ethical...

- An increase would be necessary, and even then, it is doubtful if sufficient numbers would be available. (법의 혼용 x)
- (→ ...., even then sufficient numbers might not be available.)
- 라) "were"는 직설법에서는 과거시제지만, 가정법에서는 현재 또는 미래시제임
  - \* If I were able...

If he were to see it three year hence.

- 3) Should 와 Would
  - 가) "should"는 1인칭, "would'는 2,3인칭에 쓰는 것이 원칙.
    - \* I would like to acknowledge the help... (→ should)
  - 나) should 는 "ought to"의 뜻이 있음.
    - \*\* 1인칭 시에는 의미에 따라 복잡
    - \* I should go because I am president. (의무;...would는 안됨)
    - \* I would go if I were able. (갈 수 있으면 가겠다)
    - \*\* 2,3인칭에서는 'should'는 항상 "ought to" 또는 "is likely to"의 뜻임.
    - \* He should know.
    - \* It would be pertinent to inquire who would be appointed to the task. (→ should)
  - 다) "I wouldn't know" 구별 불명확해짐
    - (= I can't be expected to know; you must ask some one else)
  - 라) "would"는 자신(自信)없을 때 (도피처를 숨기려고)
    - \* It would seem to me that the structure of sound clinical research is.... (부디 내 의견을 묻는다면, 다음과 같이 말하겠다..)
    - \* The curve of serial serum transaminase would appear to... (would 불필요)
    - \* The inhibitory substance... would seem to have similar properties to.... (seem to have...)

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- 4) Active and Passive Voice 능동태(能動態)와 수동태(受動態)
  - 7) Active voice is usually more <u>direct and vigorous</u> than the passive. It is <u>more precise</u> and <u>less wordy</u>. Erroneous is the I idea that it is somehow impolite to use first person pronouns.

**Passive voice** encourages <u>vagueness and misunderstanding</u>, and it promotes <u>dullness and monotony</u>. 그 동사의 주어가 불명한 때 사용

- \* "Digitalis has been used to treat dropsy long before Withering began his scientific study of the drug.
- \* "The school was founded in 1950."

  (In these instances, we cannot convert the sentence to active form.)
- \* The patient disobeyed the sister.
- \* The sister was disobeyed by the patient.
- \* On the basis of this evidence it has been assumed by some...
  - $(\rightarrow$  ...evidence some have assumed... )
- \* This has been achieved by us by measuring blood-pressure under the same circumstances.
  - (→ We have achieved this...)
- \* It has recently been shown...
  - (→ We have recently shown...)
- 나) <u>자동사(自動詞 intransitive verb)를 수동형으로 만들지 말 것</u>

The patient is expired. (x). He is died.(x) increased (vt & vi 두 가지 있음), lie, 등 다수.

# 다. 독립구문(獨立構文), 현수분사(懸垂分詞)

# Absolute construction, Dangling Participle

1) 독립구문은 라틴어의 탈격독립구(奪格獨立句)(ablative absolute)에 해당.

이는 "다른 단어와 문법적으로 관련되지 않는 또는 의미상으로 관여하지 않는 구"이다. 이는 바로 뒤에 따르는 명사(구)의 의미를 한정하며, comma로 갈라져 있다. 그 구 안에는 comma 가 있어서는 안 된다.

- \* The patient having been anesthetized, an incision was made...
- 이 구의 주요 단어는 보통 현재분사(現在分詞) 또는 과거분사이나 (그렇지 않는 경우도 있다), 이 구가 수식하고 있는 명사(구)를 의미하지 않을 때는 이를 **현수** 분사 (dangling participle; hanging participle; unattached participle; dangling modifier 등)이라 한다.
- 2) 문두(文頭)의 분사구(分詞句 participial phrase)는 반드시 문법상의 주어를 의미해야 한다. 분사구 앞에 접속사, 전치사, 명사, 형용사(구) 등이 선행할 경우에도 문두에 올 때는 같은 규칙에 따른다.
  - \* In taking history of the patients' illness I teach my students that they are eliciting...
    - $(\rightarrow$  I teach my students that in taking a history ... )
  - \* Encouraged by this experience subsequent patients were given a tumor dose of 6,500 r.
  - \* Having reached the stage of proof of subarachnoid bleeding the next step is to establish the effect of compression of the common carotid artery.
  - \* Having attended all the meetings, it is obvious that...
  - \* Dyspneic at rest, his eyes were bright.
  - \* Even when fatal, death is usually due to intercurrent disease, particularly infection.
  - \* Walking slowly down the road, he saw a woman accompanied by two children.
  - \* He saw a woman, accompanied by two children, walking slowly down the road. (o)
  - \* Young and inexperienced, the task seemed easy to me.
    - $(\rightarrow$  ..., I thought the task easy.)
  - \* On arriving in Chicago, his friends met him at the station.
    - $(\rightarrow...$ , he was met at the station by his friends.)
  - \* Being in a dilapidated condition, I was able to buy the house

very cheap. (x)

# 라. Gerund (동명사 動名詞)

~ing로 끝나는 동사형 명사. \* I look forward to your coming.

어떤 동사, 형용사, 명사는 부정사(不定詞) 대신에 동명사를 취한다.

- \* prevent from going (to go ... x)
- \* forbid to go (going ... x)
- \* capable of performing
- \* able to perform
- \* They aim to clarify ....
  - (→ They aim at clarifying ...) 또는
  - (→ Their aim is to clarify ...)

# 마. Adverbs (副詞)

- 1) 동사가 간단하면, 주어와 동사의 사이, 또는 동사의 바로 뒤에 위치한다.
  - \* It usually happens. \* He answered promptly.
- 2) 동사가 복합형이면, 조동사와 분사의 사이.
  - \* Prolapsed discs have recently been excised by H.
  - \* The few cases recorded usually have had co-existing intestinal disease.
    - (→ ....have usually had.....)
- 3) 완료동사의 뒤에.

(용법에 따르거나, 강조를 위하여 다를 수 있다).

- \* He spoke intelligibly.
- \* He invariably operated...
- \* They have favorably reported on the use of captopril.
- \* ..... reported favorably..... (강조)
- 4) 특별히 강조하고 싶을 때는 문두에 둔다.
  - \* Usually it occurs on the third day.

# 5) 부사가 수식하는 절의 직전 또는 절중.

- \* ...the capacity of polio virus particles to multiply sufficiently in the neurones of the thalamus and adjacent susceptible regions to permit further progression... (→ ... to multiply in the neurones of the thalamus and adjacent susceptible regions sufficiently to permit....)
- \* It would be strange after fifty years if there were no need to change the technique. (→ It would be strange if, after fifty years, there...)
- 6) 부정문(否定文)에서는 부정사(否定詞)와 동사(動詞)의 사이.
  - \* Surgery is not likely often to be considered if it seems to offer us... (→ Surgery is not often likely to ... 이것보다는 It is unlikely that surgery will often be considered... 가 더 좋음).

#### 7) 틀린 위치

- 가) 완료동사 뒤에.
  - \* If a large embolus obstructs completely a major lower limb vessel..
    - (→ ...completely obstructs)
  - \* Ward rounds tend to fall into the mould of what is sometimes called grandiloquently Socratic teaching. (—)grandiloquently called)
- 나) 명사나 관계대명사와 조동사의 사이.
  - \* It is the idea which invariably has given rise to the facts.
    - $(\rightarrow$  ...which has invariably..)
  - \* The idea often is given no more than lip-service.
- 다) 두 개의 조동사 사이.
  - \* Sometimes a change of occupation may be necessary, or retirement may even have to be recommended.
    - (→ ...or even retirement may have to be recommended.)
    - $(\rightarrow$  A change of occupation or even retirement may sometimes have to be recommended. 가 더 좋음).
- 라) 동사에서 떨어진 위치

We find the basal metabolic rate still of the greatest value.

(We still find....)

- 8) Only, Merely, Even, Also 등의 위치
  - 가) 이들이 한정(限定)하는 단어나 구의 직전에 놓지만, 뒤에 올 수도 있다.
    - \* It is only to be found on close examination.
      - $(\rightarrow ...$ to be found only on....)
    - \* It has only become apparent when the carcass is cut up.
      - $(\rightarrow ...$  It has become apparent only when....)
    - \* Union can only take place between the cut upper end of the stump and the severed aspect of the colon.
      - (→ Union can take place only between...)
  - 나) 위치에 따라 의미가 달라질 수도 있다.

Life can only be prolonged by gastrectomy. 두 가지 뜻

- # 위절제 만이 생명 연장 가능
  - → Only by gastrecomy can life be prolonged
- # 수명 연장은 가능하나 살릴 수는 없다.
  - → Gastrectomy can only prolong life. 또는 Gastrectomy can do no more than prolong life.
- \* Creatinuria can be produced also by other methylated steroids.(x)
  - $(\rightarrow ...$  can also be produced by...)

# 9) Time

- 가) "generally" 같은 애매한 시간을 표현할 때는 부사의 규칙에 따르나, 시간을 정확히 지정하는 어귀는 문두(文頭)에 든다.
  - \* In many ways, over the last ten years, Britain has led the world in the advance of tuberculosis.
    - (→ Over the last ten years Britain has in many ways led...)
  - \* By telephone at 10:15 a.m. on Friday, June 28, 1989, the medical officer of health was informed by the consultant physician of X hospital of a case of suspected cholera in that hospital.
    - (→ At 10:15 a.m. on Friday, June 28, 1989, the consultant

physician at X hospital informed the M.O.H. by telephone of a case of cholera.)

- 나) 특히 기간을 강조할 때는 맨 끝으로 보낸다.
  - \* I have done this operation regularly for the last ten years.
  - \* Knowledge of immunology has been greatly extended in recent years. (In recent years knowledge.... greatly extended.)

#### 10) Place

- 가) 장소를 강조(强調)하고 싶을 때는 문말(文末0에 둔다.
  - \* AIDS is prevalent in Thailand. 그러나 강조할 필요가 없을 때는 문두(文頭)에 둔다.
  - \* We have had some experience at Montreal in carrying out tests on mice. (→ At M. we have had...)
  - \* The public concept of mental disorders is somewhat primitive in India. (→ In India the public concept of mental disorders is...)
- 나) 장소의 절과 시간의 절이 함께 있을 때는 서로 뗀다.
  - \* In the U.S.A. at the present time much concern is expressed about the difficulty of recruiting basic medical scientists.
    - (→ In the U.S.A. the difficulty of....is now causing much concern.)
- 11) Qualifying or Limiting Phrases 수식구(修飾句)와 한정구(限定句)
  - 이들은 대개 주요구(主要句) 앞에 둔다. 한정구는 그것이 한정하는 문절 뒤에 두지 않으면 안된다.
  - \* Reticulocytes counts were performed on all patients treated with folic acid.

    (→ On all patients treated with FA reticulocytes c....)
  - \* Under tropical condition of heat it is known that the ready-made solution of suxamethonium chloride undergoes decomposition...
    - (→ It is known that under tropical conditions of heat the...)
  - \* Rest is a traditional principle in the treatment of active disease.
    - $(\rightarrow$  In the treatment of active disease rest is a ....)
  - \* Two most important points about the giving of sedative drugs must be

emphasized before discussing any of them in detail.

- (→ Before discussing in detail the use of sedative drugs two most important points must be emphasized.)
- \* There are surprisingly few experiments dealing with the production of skin cancer in animals upon application of tobacco smoke condensate in view of the attention given to the problem.
  - (→ In view of the attention given to the problem, experiments on the production of skin cancer in animals by the application of tobacco smoke condensate are surprisingly few.)

### 12) Explanatory Clauses 설명구

- 가) 짧은 때는 문두에, 긴 때는 다른 문장으로 한다.
  - \* A number of possibilities exist to account for the figures cited.
    - $(\rightarrow$  To account for the figures cited a number of ...)
- 나) 위치에 따라 의미가 달라질 수 있다.
  - \* Tricyclamol has been shown to be effective in decreasing gastric motility in balloon motility studies and also in barium studies.
    - (→ Studies with barium and with balloons show that t. decreases gastric motility)

# 13) Adjectives 형용사

- 가) 형용사가 부사에 의해 수식될 때는, 부사와 함께 명사 뒤로 간다.
  - \* The recently discovered antibiotics
    - (→ The antibiotics recently discovered)
- 나) 형용사 또는 형용사적으로 사용되는 분사는 수식하는 절의 바로 앞에.
  - \* This might be due to other factors than...
    - (→ This might be due to factors other than....)
  - \* Any group of disabled patients with mitral stenosis...
    - (→ Any group of patients disabled with...)
  - \* Fifty years ago the anesthetist was presented with similar problems to those which beset us in 1989.

(→ ...with problems similar to those....)

# 바. Conjunctions 접속사

- 1) 위치에 다라 의미가 달라짐.
  - a) However, I have found that....
  - b) I, however, have found that...
  - c) I have, however, found that...
  - d) I have found, however, that...
    - 의미: 1. 앞의 진술(陳述)을 잊었거나, "그렇지만..."의 뜻
      - 2. 다른 사람과는 달리 내가 ...을 발견했다.
      - 3. x
      - 4. "나의 기대를 어기고" 의 뜻
- 2) "however"가 문장의 뒤쪽에 놓이면 효과가 없어지므로 삭제하든지 문장을 바꾼다.
  - \* That it is an extremely dangerous condition, however, is evident.

(however 삭제)

- \* In view of the relatively progressive history and because of the age of the patient, however, we arranged his admission to hospital..
  - $(\rightarrow$  In view, however, of the ...)
- 3) "moreover"는 문두 또는 동사 뒤에 논다.
  - \* Moreover, I have found that... (o)
  - \* I have found, moreover, that... (o)
  - \* I, moreover, have found that... (x)
  - \* I have, moreover, found that... (x)
- 4) "furthermore, yet, nevertheless" 등은 문두에 둔다.
- 5) "therefore"는 주어 뒤에, 또는 동사(조동사) 뒤에 온다.
  - \* The available evidence, therefore, would seem to indicate...
  - \* The available evidence would therefore seem to indicate... (better) 그러나 의론(議論)이나 논증(論證)의 경우에는 therefore를 문두에 둔다.

# 4. Construction of Sentence

# 가. Indirect Expression 간접적 표현

- 1) 의학논문에 가장 흔한 오류. 가장 흔한 것: "there"와 "to be"의 변형.
  - \* There are other factors adversely affecting the absorption of fat.
    - (→ Other factors adversely affect...)
  - \* There was neither pain nor swelling of his ankles, feet or wrists.
    - (→ His ankles, feet and wrists were neither painful nor swollen.
  - \* In the first stage there is an increase in the heart rate.
    - (→ In the first stage the heart rate is increased.)
  - \* There was abdominal distension.
    - (→ The abdomen was distended.)
  - \* There still exists controversy over...
    - (→ Controversy still exists over...)
- 2) 간접표현 시에는 불필요한 절을 도입할 우려가 있다.
  - \* There are only two patients who approach this type.
    - (→ Only two patients approach this type.)
  - \* There were 85 men with a raised cholesterol level, of whom 34 had clinical vascular disease.
    - (→ Of the 85 men with raised cholesterol level 34 has clinical...)
- 3) **동사나 술부가 가장 중요하므로 이를 돋보이게 해야된다.** 간접표현은 역점을 명사(약한 동사를 동반하는)에 두게된다.
  - \* She had some residual weakness of her left hand. (had는 약함)
    - (→ Her left hand was still slightly weak.)
  - \* The suggestion <u>has been made</u> that... (약함)
    - (→ It has been suggested that...)
  - \* This resulted in complete relief of pain.
    - (→ Pain was completely relieved.)

- \* An initial reduction of sputum positivity occurred.
  - (→ Sputum positivity was at first reduced.
  - (→ At first, sputum-positive findings were reduced.)
- \* We were able to show that... the repeatability of measurement of the cardiac output was highly satisfactory.
  - (→ We were able to show that we could repeat the measurement of the cardiac output very satisfactory.) (→등동태)
- \* This is no justification for so wide a difference in the figures. (So wide a difference in the figure is not justified.)
- \* Thus it appears that there still exists controversy over the relative potency of X.
  - (→ Apparently therefore the potency of X is still disputed.)
- \* There have been a sharp fall in the infantile death rate and a corresponding rise in the expectation of life.
  - (→ The infantile death rate has fallen and the expectation of life has correspondingly increased.)

# 나. Active and Passive Voice 능동태와 수동태

- \* On the basis of this evidence it has been assumed by some...
  - (→ On the basis of this evidence some have assumed...)
- \* It has recently been shown by us...
  - (→ We have recently shown...
- 구문에 따라서는 수동태를 피할 수 없는 경우도 있다.
- \* The association between A. and B. has been known for many years. ("We have known"이나 "everybody has known"등은 부적절.)

# 다. Subordinate Clause 종속절

- 1) 상대적 중요성을 검토하여, 중요하지 않은 절을 and로 연결치 말 것.
  - \* Her doctor found her pulse to be rapid and irregular and considered that she had auricular fibrillation. (의사의 소견이 중요)

- $(\rightarrow$  Her doctor, finding a rapid and irregular pulse, thought she had auricular fibrillation.)
- \* A survey was made among both urban and country Bantu by XXX, who found that...
  - (→ XXX, in a survey of both town and country Bantu, found ....)

# 2) 종절의 위치

두개(또는 그 이상)의 주절의 종절(從節)인 경우 두 절 사이에 두지 말 것.

- \* Attacks of abdominal pain have been the principal feature in all cases in this group, and have also been the initial symptoms of the disease.
  - $(\rightarrow$  In all the patients attacks of abdominal pain were the principal feature and the initial symptom.)
- \* He noted that hypothermia was present in all three cases, the blood sugar was normal, and there was an absence of shivering.
  - (→ He noted that in all three cases the blood sugar was normal, hypothermia was present and shivering absent.)
- 3) Inner Subordinate Clauses 종절내 종절

종절내에 또 다른 종절을 넣어서는 안 된다.

\* Those in the best position to detect cerebral palsy early are childwelfare workers and the family doctors who take a special interest in babies, who are most likely to detect slight differences from the normal.
(→ Those in the best position to detect slight departure from the normal suggesting cerebral palsy are child-welfare workers and family doctors who take a special interest in babies.)

### 라. Parallel Clauses 등위절(等位節)

and, or, either...or, neither...nor, not only...but also 등

1) Redundancy 과다중복

\* Surveys...sometimes lead to constructive suggestions, but sometimes merely to further surveys.

(→Surveys sometimes lead to constructive suggestions or merely to..)

#### 2) Omission 생략

- \* There is still some doubt about the upper normal limit but not the lower limit. (→ ...but not about the lower limit).
- \* It is not written by a medical man, but a Ph.D.
  - (→ It is written not by a medical man but by a Ph. D.)
  - (→ The writer is not a medical man; he is a Ph. D.)

# □ł. Change of Construction

\*\* 문장의 도중에 구성을 바꾸면 안 된다.

### 1) 수동태에서 능동태로

- \* The observation by Lee that infants with obstructive jaundice have large livers was confirmed and we found that the degree of.....

  (→ We confirmed Lee's observation ... and found...)
- \* Though slightly varying estimates were given of the frequency with which the phenomenon occurred, all authors agreed that the condition..
  - (→ All those authors, though differing slightly in their estimates of the frequency of the phenomenon, agreed that...)

# 2) 명사에서 동명사로

\* These factors are not of major importance in causation or in preventing chronicity (→ ... in the cause or in the prevention....)

#### 3) 동명사에서 부정사로

- \* It is not the occasion for discrediting their skill, but rather to commend their steadfast adherence.
  - $(\rightarrow$  It is the occasion not for discrediting their skill, but rather for commending.)

# 4) 부정사에서 동명사로

\* I propose to approach this medical commentary from the viewpoint of a practicing physician rather than attempting an academic integration of the subject.

 $(\rightarrow$  I propose to approach.... rather than attempt.)

# 5) 간접적 표현에서 직접적 표현으로

- \* In spite of this there was no improvement in the severe pain of the osteo-arthropathy, the dyspnea was not alleviated, and the patient remained completely bed-ridden.
  - (→ In spite of this the dyspnea and the severe pain in the joints were not relieved; the patient remained bed-ridden.)

# Appendix : 예문 집

It can not be survived on the bone, tendon, infected wound. Because of its thickness, it cannot augment the depressed deformities, especially on the face.

There are so many area, where have a couple of artery and vein is the dominant pedicle of that organ.

A 32-year-old right-hand-dominant man sustained the tumor arising the superhyoid area.

Case 2. This 24-year-old man have been suffered from cavernous hemangioma of the face especially on the upper & lower lip.

When a radial forearm flap is raised, the deep veins are denervated that being innervated by the sympathetic nerve.

Using these data, they developed probability curves that allow physicians to estimate the probability <u>that</u> a given patent <u>has</u> prostate cancer on the basis of the PSAD. (for .... of having)

They recommended that patient with PSA greater than 4.0 ng/ml and less than 10.0 ng/ml should have a transrectal ultrasound calculated prostatic volume. (the prostatic volume calculated on transrectal ultrasound examination).

Without consideration of time lag, age-adjusted cancer death rate of Japan was

roughly four-fifth of that of USA, which mainly due to the very low rate in Japanese women.

Cancer patterns are changing in most parts of the world, but it would be hard to determine.

This phenomenon probably occurs also in Japan and thus make it possible to estimate the current state of cancer pattern by comparing with other countries.

Data of the registration statistics were reviewed and used only when the deaths of which causes were clearly identified. (excluded were those cases in which the causes of death is not clearly identified.)

By sex, cancer deaths occupied higher percentages in men than in women, (The number as well as the percentages of cancer deaths were higher in men than in women.)

For both sexes, 55 to 64 years of age group occupied largest proportion in Japan, while the proportions were increasing gradually by age in the United States. (→ For both sexes, the age group of 55 to 64 years occupied the largest proportion in Japan, while the proportions further increased with increasing age in the United States.)

Cancer of the stomach was the most common cause of cancer death in Korea which was 7 to 8 times higher than in the United States.

The cause specific death rate based on the official reporting system is usually subject to argue especially in developing countries where the reporting system is not fully active and complete. (→....refutation....largely

inadequate and incomplete)

The status of vital events register of Korea has been improving gradually, but still far from the complete system. (→ In Korea, the status of v. e. r. has been improving gradually, but it is still far from complete,)

Chronicity and seriousness of the cancer might lead to search regular medical intervention which could provide accurate diagnosis, but the improper care of aged people and other social unawareness would give the low rate of report.

There are some cancer death statistics of the United States currently available though, the authors adopted the SEER\* as the standard cancer mortality data of the US, since... (Although some statistics on cancer deaths in the US are currently available, the author used....

(\*Surveillance, Epidemiology and End Results)

It does not make sense to lump together cancers of different organs when considering the causes of cancer though, it is quite certain that environmental factors, not the genetic factors, play a major role in cancer etiology.

This means that modernization of daily living may lead to introduce similar cancer mortality pattern of developed countries in developing countries.

The results showed that the common concept of which overall cancer death rate of Korea is far lower than that of United States is not correct or at least not found in this study.

- These findings are comparable to previous reports on cancer in Japan, and thus reflect the current status of cancer development and control. (These findings are well in agreement with other reports on cancer death rate in Japan, and thus, may be taken as reflecting the current status ......)
- Since  $Ca^{2^+}$  is biologically very active, being capable of considerable disruption of metabolic order, the excessive accumulation of  $Ca^{2^+}$  is known to be toxic to cells and leads to cell death. ( $\rightarrow$   $Ca^{2^+}$  is biologically very active; however, being capable of disrupting metabolic order, the excessive accumulation of  $Ca^{2^+}$  is known to be toxic to cells, leading to cell death.)
- Experiments were carried out with male Sprague-Dawley rats weighing approximately 200 g. (

  Male Sprague-Dawley rats weighing approximately 200g were used).
- To investigate the effects of  $Ca^{2+}$ -antagonists on alloxan-induced diabetes, r a t s were received  $Ca^{2+}$  antagonists intraperitoneally 1 hour before the injection of alloxan. ( $\rightarrow Ca^{2+}$ -antagonists were injected intraperitoneally hour before alloxan administration.)
- Blood glucose was determined by O-toluidine method and serum insulin by radioimmunoassay using be COAT-A-Count insulin kit.
- The extent of damage to pancreatic  $\beta$ -cells caused by alloxan was measured indirectly by determining blood glucose concentration at 72 hours after the administration of alloxan. ( $\rightarrow$  The blood glucose concentration at 72 hours after alloxan administration, when the alloxan effect reaches the peak, was taken as reflecting the extent of damage to pancreatic  $\beta$

-cells.)

There are many evidences that ....

Male rats weighing about 200g were acclimatized 3 days prior to being used in a room with controlled temperature at  $23\pm1^{\circ}$ C. ( $\rightarrow$  ...for 3 days before use in a room with the temperature controlled at  $23\pm1^{\circ}$ C.).

Over the several decades, morphine and its derivatives has been widely used for the relief of pain. However, the addictiveness and potential to produce withdrawal symptoms of the drug diminished the clinical value of use.

(→ Over centuries, morphine and its derivatives have been widely used for relief of pain; however, their potential to produce addiction and to elicit withdrawal symptoms compromised their clinical use.)

In this group, the decrease of AUC was seen in 2nd day of treatment and gradually more decreased. (→ A significant decrease of AUC was observed already in the 2nd day of treatment and it gradually decreased further throughout the experiment.).

Recently, several reports suggesting this stress analgesia could be mediated by some hormones or neurotransmitters as well as endogenous opioid peptides. (→ ... several lines of evidence were presented suggesting ...).