Form of the Body of Medical Record

"Comprehensive Problem-Based System"

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(A few additions and corrections have been made to the English version)

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Introduction; Significance of Formality

A certain format is prescribed for surgical records, echographic findings, bone marrow reports, etc. Without a format, each person can observe and report arbitrarily, and thus no orderly knowledge of the subject can be obtained. Since the format is a request to "recognize the object in this way", the format has two aspects: "how deep recognition can be supported" and "how deep recognition is required".

In order for a format to be valid, the requirements of "words have definitions" and "writing rules are determined " must be met. Unfortunately, until recently, there has been no formality for the main body of the medical record, which is the most important part of the medical record. It was a notebook, so to speak, in which it did not matter what or how it was written or not written. The format of the main body of the medical record is the framework of medical practice as a form of patient recognition.

The Comprehensive Problem-Based System(CPBS) is a format of medical record body with "definitions and rules" that has been practiced for 40 years.

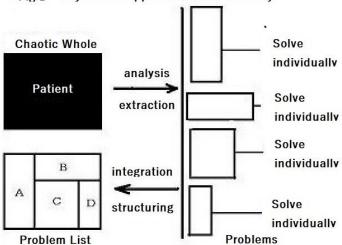


Fig.1 Physician's approach: Divide difficulty

Part 1: The Comprehensive Problem-Based System (CPBS)

Structure of CPBS

René Descartes developed the method of dividing an object into parts, solving it individually, and restoring it to its original state (analysis and synthesis) in order to elucidate a chaotic object. In CPBS, each disease (problem) is extracted from the patient as a whole, is diagnosed and is restored to give structure (problem list) to the chaotic whole (Fig.1).

The workflow for the entire process of this system from beginning to end in actual practice is as follows.

- (1) Collect basic data.
- (2) Identify the disease (problem).
- (3) Create a list of problems.
- (4) Describe each problem.
- (5) Maintain the problem list.

Explaining work procedures out of the blue will not make sense if the concept of this method is not understood. Therefore, we will explain the basic concepts of CPBS step by step. Just because CPBS resembles L.L. Weed's POMR (Problem Oriented Medical Record), which has been circulating to this day, do not be too quick to assume that it is a variant of L.L. Weed's POMR.

Even though they may look similar on the surface, the content is completely different. Without understanding this difference, you will not have a correct understanding of this method. "Problem" and "Basic Data" are the basic concepts of the CPBS.

2 Basic data (see below)

The data that should be collected without prejudice on a subject for which nothing is yet known is the basic data, a set consisting of the "patient's own describing his medical condition" "past materials from the facility" "current physical findings" and "current routine laboratory findings". This is all the information at this point. If any of the information is missing, it will not be sufficient as facts to analyze and detect the disease. This set is filled with information about the patient's diseases, of which there may be as many as possible.

③ Extraction and discovery of problems (diseases)

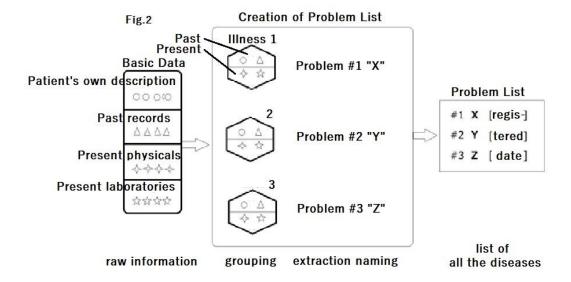
Begin the brainwork of discovering the patient's disease from the basic data

obtained.

Think in the following order.

- (1) How many diseases are there?
- (2) What is the nature of the disease?
- (3) What name should we call it?

First, the information in the basic data should be grouped and bundled by disease. The information in the data collected in the framework of "patient's own describing his medical condition" "past materials from the facility" "current physical findings" "current routine laboratory findings" is then reorganized by disease. Then, a "mass of information" bundled by disease is created. Each of these corresponds to a disease (Figure 2). The classification cannot be made without an interpretative understanding of the dynamism of events in terms of pathophysiology with respect to time axis, site, and nature. Orderly knowledge and the ability to think logically are necessary elements. Each of the "clumps" is a "disease" and a "name" is given to it. This is the "problem" and the name of the diagnosis at that time.



4 Naming of problems

The naming of the bundled "mass" for each disease extracted must be the most appropriate name at this point. That is the name of the disease or diagnosis at this point. The name of the disease is the name that can only be called this way and can definitely be called this way.

In other words, "problem" is a medical abnormality recognized by the physician in the patient, i.e., a disease and its name. The "problem" is not a disease as an abstract disease concept, but the "disease itself" that is specifically present in the patient. Lung cancer is not a disease concept, but "this lung cancer in this patient.

Generally, in the early stages of diagnosis, the disease cannot be called by its classic disease name (e.g., dermatomyositis, acute spondylitis and aplastic anemia). The disease can only be named by the name of a common symptom, finding, or condition such as chronic diarrhea, hepatosplenomegaly, acute azotemia and so on. In the case of acute low back pain, many symptoms and findings form a "mass" of the disease, but the essence of the disease is not these miscellaneous symptoms and findings, but acute low back pain, which is the diagnosis.

We still do not know if this acute low back pain is a metastatic tumor or a pyogenic spondylitis. But it was certain that acute low back pain was the patient's disease. There is no other more appropriate name for it.

The diagnostic process is to start with no name for the disease, go through a wide range of nonspecific names, and then to seek a specific name for the disease.

(5) Attributes of a Problem

The problem to be named in this way has the following attributes as a name. Let us illustrate with an example.

(1) a noun that is a name.

Since it is the name of a disease, it is naturally a nominative noun. At the beginning of the diagnosis, it is often impossible to call the patient's disease by the classical name of the disease. We can only call the disease by its general and broad name, such as abdominal pain, coma, pleural effusion, lymphadenopathy, and so on. In this case, pleural effusion does not imply a finding. It is the name of the disease that is representative of the disease with its findings.

(2) a specific name without ambiguity.

Vague means ambiguous. For example, liver dysfunction is ambiguous. "Hepatic function" is commonly used to refer to hyperAST-emia or hyperALT-emia, which reflect the amount of hepatocyte disruption and are not indications of liver dysfunction. We must avoid false stereotyped that make correct analysis impossible.

Signs of liver dysfunction include jaundice, hypoprothrombinemia and hypoalbuminemia. Since each clinical situation is different, the name of the disease must be specific and unambiguous. If one is referring to abnormal AST or ALT, it would have to be hyperALT-emia, since hyperAST-emia can also be a sign of muscle collapse.

(3) the name which is a fact.

"Suspicion of lung cancer" is not a problem. Lung cancer may be the primary differential for the disease, but it is not a fact. There is no such thing as a "suspected

disease disease". Lung nodule or lung mass, which is "the name of the patient's disease at the time" that lung cancer is most likely to be considered, is problem. They are names of facts that cannot be called otherwise and can only be called that.

(4) the subject to be dealt with as a physician.

Social events are the patient's circumstances and environment, not problems. For example, when depression is a disease, unemployment, caregiver fatigue and ill child are in the realm of causes and triggers of depression. It is as if streptococci were a problem and not streptococcal pneumonia. Acute leukemia is a problem for all people, regardless of where they live, but living in a mountainous area is the living environment of the sick person, which is a separate category from the disease. It is not on the list of diseases. Categories different from diseases are treated in different ways, and doctors do not give money to patients just because they are poor. The living environment is stored in the picture of social life in the medical history.

6 Names that are not a problem

To better understand the concept of problems here, let me give a supplementary explanation of what is not a problem.

Problems (Diseases)		What is NOT a Problem	
1	Nouns that are names of diseases	1 Verb Noun	
2	A specific name that is unambiguous	2 Verbs	
3	Names that are facts	3 Narrative	
4	Subject to be dealt with	4 Mere findings	
	by the physician	5 Meaningless particula	ars

(1) verb noun.

The arrhythmic attack is cured each time. It happened yesterday and today. you may have another attack tomorrow. The arrhythmic attack is cured, but the disease "paroxysmal arrhythmia" is not cured. The verb nouns (e.g.,exacerbation and retention) are not problems. Words are cognitive codes, so if the words are different, the perception is different. Since water accumulation is not a name of disease, a name of disease would not be brain metastasis, but be metastatic brain tumor. Verbal nouns are not problems.

- (2) verb.
- "R/O (Rule Out)" kind is not problem.
- (3) narrative.

A statement of "there was" such as "there was a history of" is not a problem.

(4) mere findings.

Neutrophil "decrease" and "low Na" are findings of test results, not names of diseases.

"Neutropenia" and "hyponatremia" are names of diseases represented by these findings. There may be other abnormal findings, but they were combined to best describe the true nature of the patient's disease, and thus it is used as the representative name for the patient's disease.

(5) meaningless particulars.

The name of the disease must express the essence of the disease. Let us say that a patient has osteoarthritis of the left side of the knee. Let's call the problem "left knee osteoarthritis". If this goes away and arthritis occurs on the right side, is the problem now "right knee osteoarthritis"? Left and right have nothing to do with the nature of the disease. The patient's disease is "osteoarthritis of the knee," and the patient now has arthritis on that side. We do not recognize the true nature of the disease by the location of the stone that has rolled down from a kidney stone the day before yesterday, to a ureteral stone yesterday, to a bladder stone today, and so on. Of course, there are cases in which the designation of the site has significance as the true nature of the disease. For example, right upper abdominal pain or right lower abdominal pain. In larger terms, "head" pain and "chest" pain are sites of pain.

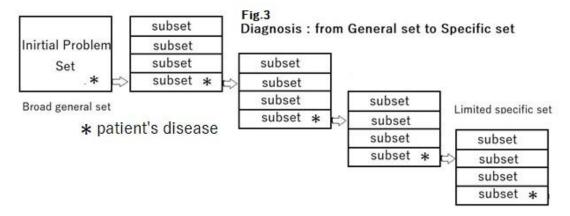
② A set of problems named

The problems are named. The named problem is a set of diseases called by that name.

The patient's disease is always in that set. If "coronary occlusive atherosclerosis" is the problem, the patient's disease is in the set "coronary occlusive atherosclerosis". Even if the problem is represented by the symptom rather than the classic disease name, "acute back pain" or the problem represented by the findings, "pulmonary mass", the patient's disease is in that set. That's what we call it.

The diagnostic process is to change the name of the problem into a more specific name of the disease. In other words, the naming process proceeds from the initial set to its subsets. The subset is further divided into several and exclusive subsets directly below it. The patient's disease is in one of these subsets, and then in a subset of that subset (Figure 3). Thus, the subset is replaced by the name of a more

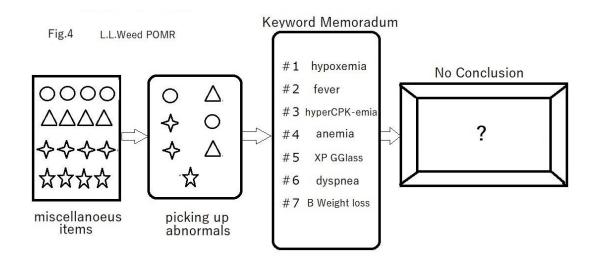
limited, specific set, and the diagnosis culminates in the final name of the disease.



Problem List

There is not always one disease found in the information material. In today's aging society, there is often more than one. The list of such problems (diseases) is the "Problem List". Since it is a list, it must have rules.

In the Problem List of L.L. Weed's POMR and the Problem List of POS in Japan, "problem" or "issue" is a miscellaneous mixture of categories such as "disease" "mere finding" "past disease" and "social event". The "number" and "date" are disorderly. It is nothing more than a private memo of the items to be examined. The patient's disease, which is the result of the study, is not written anywhere. In other words, there is no conclusion (Figure 4).



The Problem List of the CPBS is a list of conclusive diseases with the following rules.

Rules of Problem List

- 1 Register all problems without omission.
- 2 Number all problems.
- 3 Number in the order of registration or occurrence.

Number remains the same throughout.

- 4 Notate the date of registration.
- 5 Notate the development of the problem.
- 1. All problems must be registered without exception.

It goes without saying that correct treatment is impossible without knowing all the diseases.

2. Each problem must be registered with a number (#). The number remains the same from beginning to end throughout the medical practice.

The disease is registered in the family register of diseases and entered in the ledger.

3. The numbers are assigned in the order of registration or, if the same registration date is used, in the order of occurrence.

It should be noted that the order is not the order of importance.

A list in order of importance would be, for example, #1 aortic dissection disease/ #2 hypertension / #3 diabetes. If this patient suddenly has a cerebral infarct, the list would be rewritten as #1 cerebral infarct, and if pneumonia threatens tonight, the list would be rewritten as #1 acute pneumonia. This would result in a confusing description with the list being rewritten each time.

On the contrary, the list in order of occurrence is #1 Hypertension / #2 Diabetes / #3 Aortic dissection disease / #4 Cerebral infarct / #5 Acute pneumonia, giving a historical overview of diseases that have occurred to patients. The family register is not loosened. In this way, consistent descriptions can be made and continuum of medical care can be provided to transcend space and time.

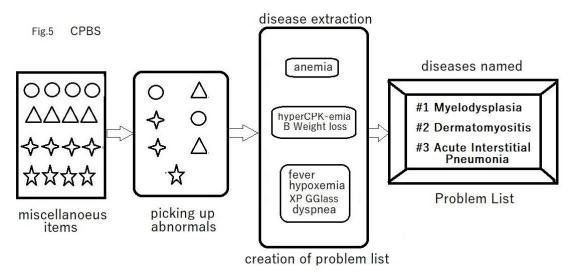
4. Indicate the date of registration"[this type brackets] "

Note that this is the date of registration, not the date of occurrence. The physician, so to speak, declared this disease on this date. It becomes a subject of medical practice after the physician certifies it.

5. The development of the name of the problem is indicated by " \rightarrow ". (see below)

The name of the problem is updated in search of the name of the disease. The updated name is clearly indicated along with the date.

Thus, the problem list is always with the patient and serves as a frame of medical daily care. The history and current status of the patient's diseases can be clearly seen in the list (Figure 5).



Description by problem

Back to the classification of basic data.

Problems are one disease. As a single disease, each has a past, present, and future, so it should be possible to describe each. In other words, since the disease could be described, it could be identified as a single disease. The mass of information for each disease is organized into the following frameworks: "PP;past to present", "PF;present findings", "PC;present consideration (analysis, interpretation, policy, purpose and objective)" and "PL;plan".

Past to Present	Present	Consideration	Plan
PP(from past to present)	PF(present findings)	PC(consideration)	PL(plan)
Patient's own	Present physical	analysis,	Plans
description of	findings.	interpretation,	
the disease state.	Present	policy, purpose and	
Past information from	laboratory	objective.	
the facility.	findings.		

Significant information in the documents belongs to one of the diseases. Assign each one of them to one of the diseases. Let's illustrate the significance of this with a case study.

Now we have a problem list: #1 hypertension / #2 diabetes mellitus / #3 lower

leg cellulitis. The patient has urinary protein 2+ as a laboratory finding. In which problem would you put this finding?

#1 Hypertension #2 Diabetes mellitus #3 Lower leg cellulitis #4 Proteinuria

We are automatically saying that the renal involvement of this proteinuria is hypertensive nephrosclerosis in (a), diabetic nephropathy in (b), and temporary focal glomerulonephritis in (c), without the need to write in consideration(PC). Another case that does not involve any of these is #4 proteinuria. If the condition is such that proteinuria extends beyond the original diabetes, then a new problem, such as diabetic nephropathy, would stand on its own. If what is considered to be involved in both cases and cannot be placed in one of them, it should be placed to heavier side. It is always required to sift through. When we are able to respond to this request and organize the information in an argumentative manner, we can be confident that we have a deep and correct understanding of the patient.

The factual material that forms the basis of PC is found in PP and PF, and the sifting of PP and PF information by problem is already a consideration in itself, but what is found in PP and PF is a statement of fact as information. In order to consider, we must know what we need to know. The framework for thinking about the site, extent, shape, cause, trigger, type, classification, function, degree, progression, complications, prediction, and prognosis should be set up in the mind, and the empty spaces should be filled in. The rationale must be in the PP and PF. Since the discussion is only about this problem in this patient, there is no need to cite literature or texts about the disease in general.

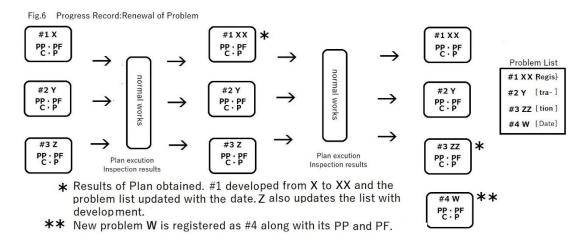
The plan PL is divided into three parts: diagnosis Dx, treatment Tx, and explanation recommendation (content) Ex. A plan is a "future action" that specifies the date, time, person, place, and method, so it is different from the future policies and objectives written in the PC. There cannot be a description A/P that puts A and P together because they are different categories.

The following format is used to describe the problem (disease) 's past, current status and current plan.

#1 X		
PP	Progress and symptoms (incl.brief summary excerpts of past information)	
PF	Current status (brief summary excerpts from current findings)	
PC	Discussion (based on PP and PF)	
PL	Plan (Dx. Tx. Ex.)	

① Progress record

Once the problem list has been developed, this becomes the core frame of reference for the practice. The day and night practice are described at turning points, whether inpatient or outpatient. A description of the progress is also given for each problem. (Figure 6).



#1 X		
PP:	Symptoms and progress from the previous visit to the current visit	
PF:	Findings of the previous plan and physical findings at this point	
PC:	Considerations at this point	
PP:	Plan at this point	

Appx 1:Common general health indicators (appetite, bowel movements, sleep, etc.) are noted in the most important problem at that point in time. This names the most important problem.

Appx 2: Plan, especially the treatment plan, can have a profound effect on all the problems. The plans may be listed together under the most important problem not for each. This will also prohibit an attitude that is indifferent to other problems.

① Provisional problems

In the course of a long and continuous practice, temporary minor problems are frequently encountered. They are not given official numbers, but are treated as problems with temporary numbers #a/#b/#c. The official numbers are permanent, but the a, b, and c can be used over and over again.

The following are the types of provisional problems.

1. Transient minor illness

#a common cold

2. Insufficient basic data to determine the order of occurrence, so an official number cannot be given.

#a edema /#b antinuclear antibody-emia /#c interstitial pneumonia

3. Not yet determined to be a disease

a hyperALT-emia

② Development of problems

Problem is the name of the disease, but from the beginning we cannot say the "classic disease name" (e.g. acute pancreatitis, cardiac sarcoidosis, colon cancer) and can only call it by the name of the symptoms (e.g. headache, dyspnea, joint pain), findings (e.g. heart murmur, polycythemia, ascites) and condition (e.g. delirium, hypoglycemia, azotemia). Nevertheless, the best name at this point is the one that best describes the essence of the disease. It is important to note that once a problem is named, it is not merely a symptom or finding, but a disease called by the name of the symptom or finding.

Initially, the disease can only be called by a nonspecific broad name. From this point, the work begins to call the disease by a more specific name. Diagnosis is nothing more than starting from a nonspecific broad name and proceeding in search of a specific name. It is as if one were to open a large box, pick up the box inside, open it again, and finally find what one is looking for. This is what we call the development of a problem.

There are seven types of development. The following is a description of the seven types, along with how they are described.

1. Development: the name has become more specific. There are two subtypes.

1-1; Deepening of recognition

Example #1 Anemia → Myelodysplastic syndrome

1-2: Identification of cause

Example #1 Acute pneumonia → Acute staphylococcal pneumonia

The following are limited to cases where parentheses () indicate a cause.

Example a :pathogenic microorganism, drug, etc.

Hypersensitivity pneumonitis → Hypersensitivity pneumonitis (drug's name)

Example b: direct causal relationship with other problem

#1 Nephrotic syndrome (#2)

#2 Systemic lupus erythematosus

2. Inclusion: Initially thought to be separate, but found to be part of other problem.

Example #1 Acute back pain syndrome \rightarrow Acute staphylococcal spondylitis #2 Fever \rightarrow (Inclusion) #1

3. Transition:

Example a: It becomes a separate disease and the original disease is no longer present.

#1 Acute renal failure → (Transition) Chronic renal failure

Example b: The disease took on a markedly different status.

#1 Acute leukemia → (Transition) Acute leukemia (Status post allogeneic bone marrow transplantation)

4. Correction; Correct a wrong.

Example #1 Hematemesis \rightarrow (Correction) Epistaxis

5. Cancel: Mistakenly recognized as having the disease.

Example #1 Lung cancer \rightarrow Canceled.

6. Termination: The patient is not cured, but the problem is no longer present. This is often caused by accidental trauma or surgery. If there is a significant reason to indicate, it is described in parentheses.

Example #1 Osteosarcoma → Termination (traumatic amputation)

7. Cure; Cure is the ultimate goal of medical treatment. If the patient is cured for a significant reason, it will be noted in parentheses.

Example #1 Ulcerative colitis → Cured (total colorectal resection)

When the problem no longer exists, it is clearly indicated as "Completed".

Example #1 Ulcerative colitis → Cured (total colorectal resection) "Completed"

Categories of name of disease

Before proceeding, there are important things to note. There are two different categories of names that are considered disease. Let's see examples.

a. Pathomorphological category	b. Physiofunctional category
Insulinoma	Hypoglycemia
Grave's disease	Hyperthyroidism
Aortic stenosis	Congestive cardiac failure
IgA nephropathy	Chronic renal failure
Lewy Body encephalopathy	Dementia
Clostridium perfringence enteritis	Shock syndrome

Furthermore, we can see that there is an inclusion relationship within the same category.

a. Pathomorphological category

Arthritis > Chronic arthritis > Chronic polyarthritis

Pulmonay mass > Pulmonay carcinoma > Pulmonay adenocarcinoma

b. Physiofunctional category

Hypoglycemia > Hyperinsulinemic hypoglycemia

Azotemia > Renal failure

One disease has both of these categories simultaneously. Chronic nephritis may be present in some patients with renal failure, while in others it is not. What is fundamentally important to man is the physiofunctional categorical state of health, illness and death.

Pathomorphological categorical diseases are pursued and treated as threats to these physiofunctional conditions.

When a pathomorphological disease is medically considered to automatically contain a physiofunctional state, the two problems are not juxtaposed but developed as the same problem.

Example #1 Hyperthyroidism → Graves' disease

If not necessarily medically inclusive, both problems are juxtaposed to show the causal relationship between the two.

Example #1 Hypoglycemic coma (#2)

#2 Insulinoma

Part 2: The CPBS Clinical Thinking Procedure

Now that you understand the concept of the CPBS, let's return to the actual medical practice procedure.

- (1) Collect basic data.
- (2) Identify the disease (problem).
- (3) Create a list of problems.
- (4) Describe each problem.
- (5) Maintain the problem list.
- (2) to (5) are the actual steps after the collection of basic data, and have already been explained in the previous chapter. This section describes the first stage of collecting basic data.

1 Basic Data

It is easy to understand the meaning of the basic data if we consider them over time. The patient appears with patient's own description of the condition and with information about own past left at the medical facility. Physician now observes the patient. The information obtained through observation is the physical and laboratory findings.

From past to present	Present
Patient's own description of illnesses	Present physical findings
Past medical information	Present lab findings
What the patient brought	What the doctor is looking at now

(1) The patient's own description of the illnesses; history of present illness, medical history, family history and social life.

The history of present illness is defined as "a historical description of the patient's illness, obtained by interview, in the patient's own words". It is not a physician's commentary.

A distinction should be made between "past" diseases and "existing" diseases. A past disease is one that no longer exists, whereas an existing disease is one that began in the past and continues to exist today (Figure 7).

Hypertension and diabetes mellitus in a patient with acute myocardial infarct are clearly existing conditions and should not be treated as past conditions. The history of present illnesses should be written from the existing diseases and up to the present. It is not known at the time of basic data collection whether the event is related to an existing illness or a new separate case.



(2) Physical findings

Routine items are requested in print. Certain findings should be taken for all patients, since the patient's disease is not yet known. Any findings that are not taken should be clearly stated as not taken. Sloppy and ambiguous examinations are not acceptable. The ability to take accurate findings is rigorously trained.

(3) Routine laboratory examination findings

A package of tests that are not specific but sensitive, simple, rapid, and inexpensive. Everyone should develop the ability to correctly obtain and interpret the findings of basic tests.

(4) Past documents left at the medical facility; laboratory examinations, medical records, referral letters, nursing records, images, pathological tissues, etc.

These are the records left by the physician at the facility. These records should be contrasted with the history of present illnesses that was written with the patient as subject.

From this basic data, positive and negative information that contributes to the analysis is extracted and organized over time. Effective organization of historical data is not an easy task. There must be no redundancies or omissions, and failure to obtain them is out of the question. This can be likened to an archaeological museum arranging excavated materials by category over time to promote historical understanding.

This is where the brainwork of finding and describing problems begins, as we saw in the previous chapter. By describing each disease, the information becomes knowledge about the patient's disease. The list of diseases is then presented as a frame of reference at the beginning of the medical record. The problem list is the "physician's declaration (date)" that the patient has "this kind of disease (# number)" and is "currently in this kind of condition (→development/update)", and this record transcends time and space, transmitting today to a thousand years into the future.

Conclusion; Significance of the Form of the Body of the Medical Record

The format of the main body of a medical record has the same general significance as the format itself.

- 1.It expresses quality.
- 2. It objectifies the act of thinking.
- 3. It guarantees the level required by the form.
- 4. It enables us to train the thinking required by the form.

Bad form permits bad thinking, and good form encourages good thinking. Without time, you cannot write in detail on a daily basis. However, even if we do not have time to write, we should reflect on whether or not the thought acts of our medical practice to meet the requirements of the formality.

Finally, I would like to reiterate that the problem list is at the core of the medical practice. The Problem List is a complete, correct, and concise medical history of a person's long life. Needless to say, it is significant that the list is with the patient yesterday, today, and forever.

- *CPBS from the time of birth
 - Problem List
- #1 Exanthema subitum → cured [registered date] "Completed".
- #2 Acute hepatitis A \rightarrow cured [registered date] "Completed".
- #3 Acute appendicitis→ cured (appendectomy) [registered date] "Completed"
- #4 Acute pneumonia [registered date]
 - → Acute pneumococcal pneumonia[registered date]
 - → cured [registered date] "Completed"
- #5 Diabetes mellitus [registered date].
- #6 Monoclonal gammaglobulinemia [registered date]
- #7 Cerebral infarct → Cured [registered date] "Completed".
- #8 Motor aphasia (#7) [registered date].

- #9 Prostate carcinoma [registered date].
- #10 Cerebral infarct [registered date].
- *CPBS from a certain point of time

Past illness; Exanthema subitum [date], Acute hepatitis A [date],

Acute appendicitis [date], Acute pneumococcal pneumonia [date]

Problem list

- #1 Diabetes mellitus [date].
- #2 Monoclonal gammaglobulinemia [date]
- #3 Cerebral infarct → cured [date] "Completed"
- #4 Motor aphasia (#4)
- #5 Prostate carcinoma [date]
- #6 Cerebral infarct [date]