Title
Computer aided instruction as an adjunct to traditional teaching modalities in pharmacology

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COMPUTER AIDED INSTRUCTION AS AN ADJUNCT TO TRADITIONAL TEACHING MODALITIES IN PHARMACOLOGY

by

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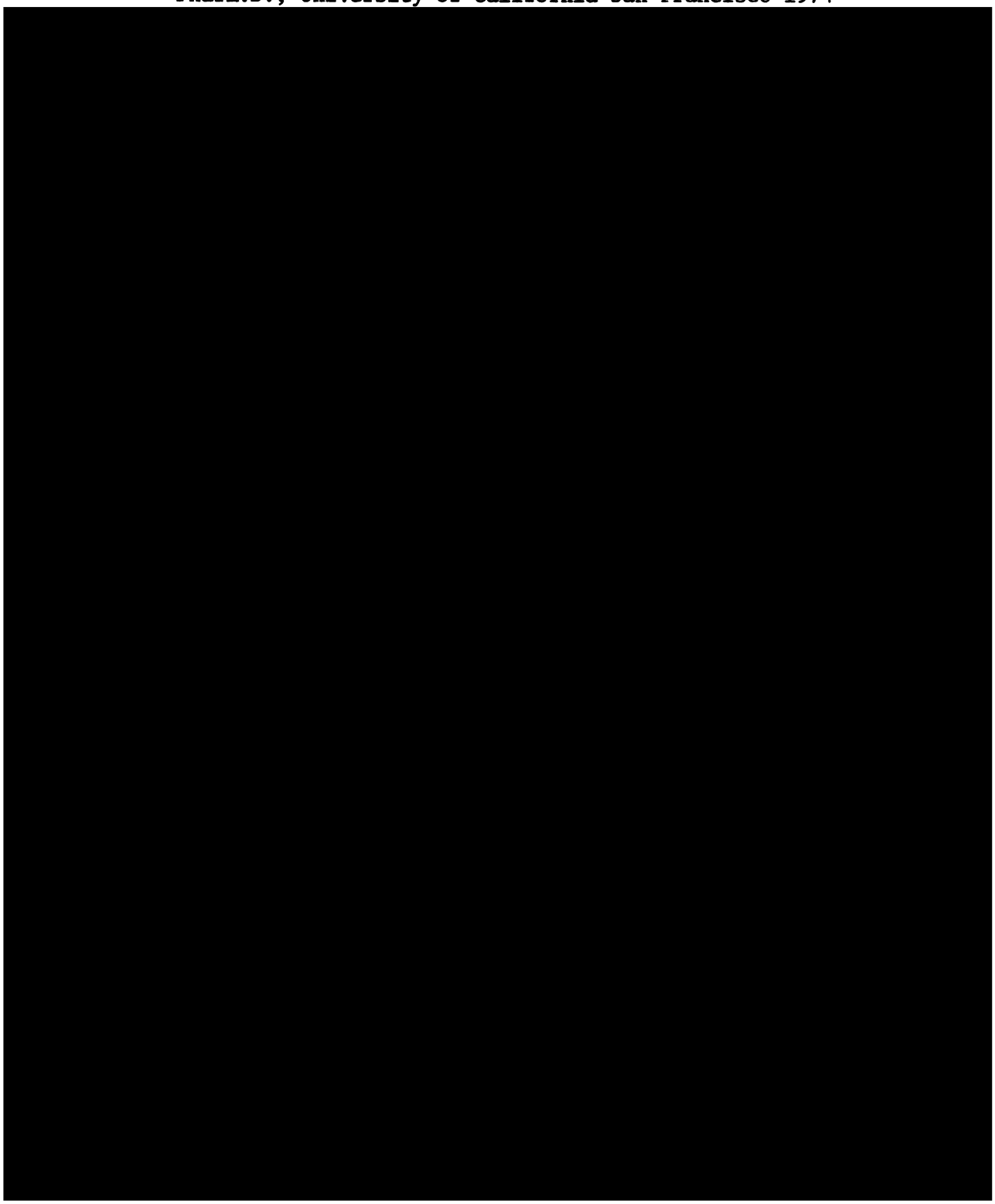
Pharm.D., University of California San Francisco 1974



DEDICATION

To my wife and parents

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INTRODUCTION

Computer aided instruction has been in existence for more than a decade and a half (Brudner 1968). However, it has been only within the last five years that computer aided instruction has been developed and used with greater frequency in health sciences education (Hilman 1971; Brody et al 1973; Bitzer and Bitzer 1973; Fitzgerald 1973; Brigham and kamp 1974; Kamp 1975; Vanselow 1975). For example, a recent survey of the Association of Medical Colleges revealed that seventeen pharmacology departments used some form of computer aided instruction during the 1975-1976 academic year (LeFever 1976).

Because this is still a relatively new teaching technique in the health sciences, very few controlled studies utilizing computer aided instruction in actual class usage situations exist. Thus, evidence about the effectiveness of computer aided instruction in comparison to other teaching methods is lacking (Vinsonhaler and Bass 1972).

A brief review of the literature of the use of computer aided instruction in the health sciences shows that research efforts fall into three main categories: 1) technical development of computer assisted case history exercises (DeDombal et al 1971; Harless et al 1971; Hillman 1971; Harless et al 1973; Hoffer 1973; Warner 1974); 2) evaluation of subject performance in completing computer case

history exercises (DeDombal et al 1971; hillman 1971; Friedman 1973; Warner 1974); and 3) evaluation of the effect of computer aided exercises upon the subjects' learning and clinical performance (Bitzer 1973; Brody et al 1973; Fitzgerald 1973). A search of the literature revealed no evaluative studies of the use of computer aided instruction in the subject area of pharmacology.

Computerized learning aides have been developed and used by the Pharmacology department of the University of California, San Francisco for the last five years. The users have always rated these exercises highly and have consistently asked for more programs to be developed. However, it has not been objectively determined whether or not computer exercises affect student learning and/or attitudes.

With these facts in mind, it was decided to attempt to determine whether or not computer aided instruction used in an actual class situation could affect student attitudes when used in conjunction with the traditional modalities of pharmacology instruction (i.e. lectures and laboratories).

In order to satisfy this objective a series of computer aided instructional programs was designed, developed and integrated into an established pharmacology course for third year pharmacy students at the University of California, San Francisco. A questionnaire was used to evaluate the effect of these computer aided instructional programs.

MATERIALS AND METHODS

Subjects. The subjects were forty-six third year pharmacy students at the University of California, San Francisco, who were enrolled in pharmacology 136 during the Fall quarter 1976.

The students were asked on the first day of class to participate in a research project which would require filling out a questionnaire. They were told that participation would be completely voluntary and would not be associated with any incentives nor would lack of participation result in any punitive measures. In addition, the subjects were informed that another questionnaire would be administered later in the quarter and that their responses to the questions on the questionnaires would be used to assess and influence the teaching strategies of the course in the future. The precise involvement of this project with computer aided instruction was not mentioned, however, in order to preserve the blind characteristic of the experimental design.

Additional steps were taken to fulfill the obligations of ethical research and to adequately protect the subjects' rights. These included obtaining approval for this project from: the Dean and Executive Committee of the School of Pharmacy; the chairperson of the Department of Pharmacology; the instructor in charge of the course; and the Human Experimentation Committee of the University of California, San Francisco.

Computer Aided Instructional Programs. Computer aided instructional programs were chosen for evaluation partly because students who have used computer aided instruction at the University of California, San Francisco campus have indicated in the past that they liked it and would like to see more programs developed.

In addition, computer aided instructional programs utilizing a case history type of format allow students to attempt role-playing and decision making processes in a situation simulating actual clinical practice and are a new and potentially valuable teaching format for use in pharmacology course for pharmacy students (DeDombal et al 1971; Kotzan 1971; Friedman 1973; Hoffer 1973).

The programs (see appendix), which were designed and developed for this project, were written in PILOT language and utilized Datapoint minicomputers. Four programs of approximately twenty to thirty minutes duration were designed using a case history-clinical simulation format. The programs began with a general introduction of the patient and clinical setting and then proceeded through an interactive series of approximately ten questions which required decision making and selection of a pharmacologic drug therapy regimen in order to complete the exercises. Additional supplemental data were provided as needed throughout the programs.

The subject matter of the programs ("Narcotic Analgesics", "Gout", "Sedative-Hypnotics", and "Parkinsonism") paralleled lecture material in the course pharmacology 136. Specific problems of patient compliance and patient therapy data base (the process of accumulating appropriate and sufficient data prior to making a therapeutic decision) were also integrated into each program. The computer programs were designed to record all user responses on a data collection tape.

Questionnaire. A questionnaire format (see figure 1) was selected as the method of assessing any effects of the computer case histories upon the subjects attitudes. The questionnaire consisted of a list of thirty-six items which the subjects were asked to rate on a numerical-verbal scale from one (not important) to five (important) in relation to three variables: 1) themselves as future pharmacists; 2) their overall pharmacy education; and 3) pharmacology 136, the course with which the computer exercises were associated.

The thirty-six items on the questionnaire were selected to cover subject matter in pharmacology 136 and other clinical pharmacy course work. In addition, two of the items were included in order to measure changes in the subjects' attitudes toward patient compliance and patient therapy data base. These last two items were chosen because: they are relevant to the students' education (Suveges 1977); they were not formally taught in the course

Figure 1. Student Attitude Questionnaire

In order to help make this course more responsive to student needs we need your co-operation in filling out this questionnaire. The completion of this form is, however, completely optional and will not affect your grade and/or standing in this class.

In order that we may be able to correlate your responses now and later in this quarter we will need your social security number "code". This code has been devised to protect your anonymity and works as follows:

If your social security number is: 5 4 5 - 4 7 - 9 8 6 2

cross out: 5 4 - 4 - 8

and enter: 5 - 7 - 9 6 2

Please enter your social security number "code" in the following blanks: X X _ - X _ - _ X _ _

The following questionnaire consists of a list of 36 items which you are to rate on a scale of from 1 (not important) to 5 (important) in relation to the following 3 variables:

A) Yourself as a future pharmacy practicioner B) Your overall pharmacy education C) This course

Item		rating (not important) 1	2	3	4	(important) 5
lions		A,B,C				
drug abuse	1					
medication dosage forms	2					
homework	3					
antiepileptics	4					
cocaine	5					
patient compliance	6					
pain	7					
patient variability	8					
mental disorders	9					
non-drug therapy	10					
bioavailability	11					
electroconvulsive therapy	12					

Item		rating (not important) 1	2	3	4	(important) 5
getting an A grade		A		B		C
psychiatric therapy (non drug)	13					
drug side effects	14					
tranquillizers	15					
medical ethics	16					
bioequivalence	17					
alcoholism	18					
sedative-hypnotics	19					
dose ranges	20					
marihuana	21					
hallucinogens	22					
contraindications	23					
analgesics	24					

Item		rating (not important) 1	2	3	4	(important) 5
CNS stimulants	25					
patient therapy data base	26					
outside readings	27					
patient education	28					
antitussives	29					
clinical laboratory tests	30					
lectures	31					
local anesthetics	32					
routes of administration	33					
trade names	34					
drug interactions	35					
drug toxicity	36					

pharmacology 136; and they were stressed in each of the computer case history programs.

The thirty-six items were randomly assigned in sequence to the questionnaire form in order to minimize any bias which might be caused by the order in which the items appeared on the questionnaire.

In order to maintain the subjects' anonymity while at the same time identifying the questionnaires so that paired pre- and post-test (first and second questionnaire) results could be analyzed, a social security number code (i.e. XX_-X_-_X__), in which the subject merely fills in the five blanks was used.

Course Evaluation Form. The course evaluation form (see appendix) consisted of seven questions. Three questions related directly to the computerized case histories. These questions specifically addressed rating the computerized case histories on a scale from one (poor) to five (excellent) and to whether or not more such computer aided instructional programs should be developed and implemented into the curriculum.

Execution Of The Experiment. The subjects were randomly assigned, by means of a table of random numbers, to three separate groups. All three groups completed the questionnaire on the first day of class. A second questionnaire was mailed along with a stamped

self-addressed anonymous return envelope and an explanatory cover letter (see appendix) to respective thirds of the class at three, seven and ten weeks into the quarter. This procedure allowed any differences in ratings between paired first and second questionnaires to be correlated with the number of computerized case histories used and with the course content.

Based upon a survey done the previous year, it was decided to allow the subjects to use the computer exercises individually or in groups. The computer case histories were available to the subjects throughout the Fall quarter seven days a week during regular libary hours at the self-instructional media area on campus (SIMA). The subjects were asked to go through the case histories at their convenience and were not urged or coerced to participate at any time as it was intended to have this project represent normal student use. On the last day of class the subjects were asked to voluntarily fill out the course evaluation form.

Evaluation And Analysis Of The Results. The data were derived from three major sources. The primary source of the data was the questionnaires which the subjects completed. Means, standard deviations, correlations, change scores and paired t-tests were calculated from this data with the aid of a computer program package entitled "Statistical Package for the Social Sciences" (Klecka et al 1975; Nie et al 1975).

The second source of data was the responses which were automatically recorded on the computer data collection tapes as the subjects proceeded through the computer case histories. This provided information concerning the amount of use which the subjects made of the computer case histories as well as information which could be used to modify the programs.

The third source of data was the course evaluation form which the subjects completed on the last day of the course. This provided information regarding the students' attitudes towards these computer case histories and the development of future computer case histories.

RESULTS

Questionnaire. Forty-six subjects completed both first and second questionnaires. Their mean ratings for the thirty-six items in relation to: A) themselves as future pharmacy practicioners; B) their overall pharmacy education; and C) the course pharmacology 136; are presented in appendix C.

Out of the three-hundred-twenty-four paired means only twenty-seven (8%) showed statistically significant changes ($p < 0.05$). Table 1 identifies both the twenty-seven items which changed and the category in which the changes occured. The changes were almost equally divided among the three different post-test groups (41% in group 1; 30% in group 2; and 30% in group 3). Twenty-one of the twenty-seven items (78%) had significant changes in a negative direction. Category C (course related attitudes) accounted for the majority of attitude changes (52%) with categories A and B accounting for 19% and 30% respectively.

Figures 2 and 3 show the relationship between paired mean change scores (mean score questionnaire #2 minus mean score questionnaire #1) for items 6 (patient compliance) and 26 (patient therapy data base) and the number of computer case history programs which the subjects completed. These two items were chosen for this kind of analysis because specific examples dealing with patient compliance and

Table 1. Summary of Attitudes Which Showed Significant Changes.

		1	2	3
(A)	+			33
	-	25,32	15,22	
(B)	+		28	
	-	21,33	3,6,20	25,30
(C)	+	1	12	8,18
	-	4,5,9,16,21,25	7	3,17,30

Table 1. Each number in this table identifies an item on the questionnaire for which the post-test mean rating differed significantly ($p < 0.05$) from the pre-test rating. Differences are shown as either positive (+) or negative (-) for post-test groups 1, 2 and 3 in relation to variables: A (future pharmacy practice); B (overall pharmacy education); and C (course pharmacology 136).

Figure 2. Item 6: Patient Compliance

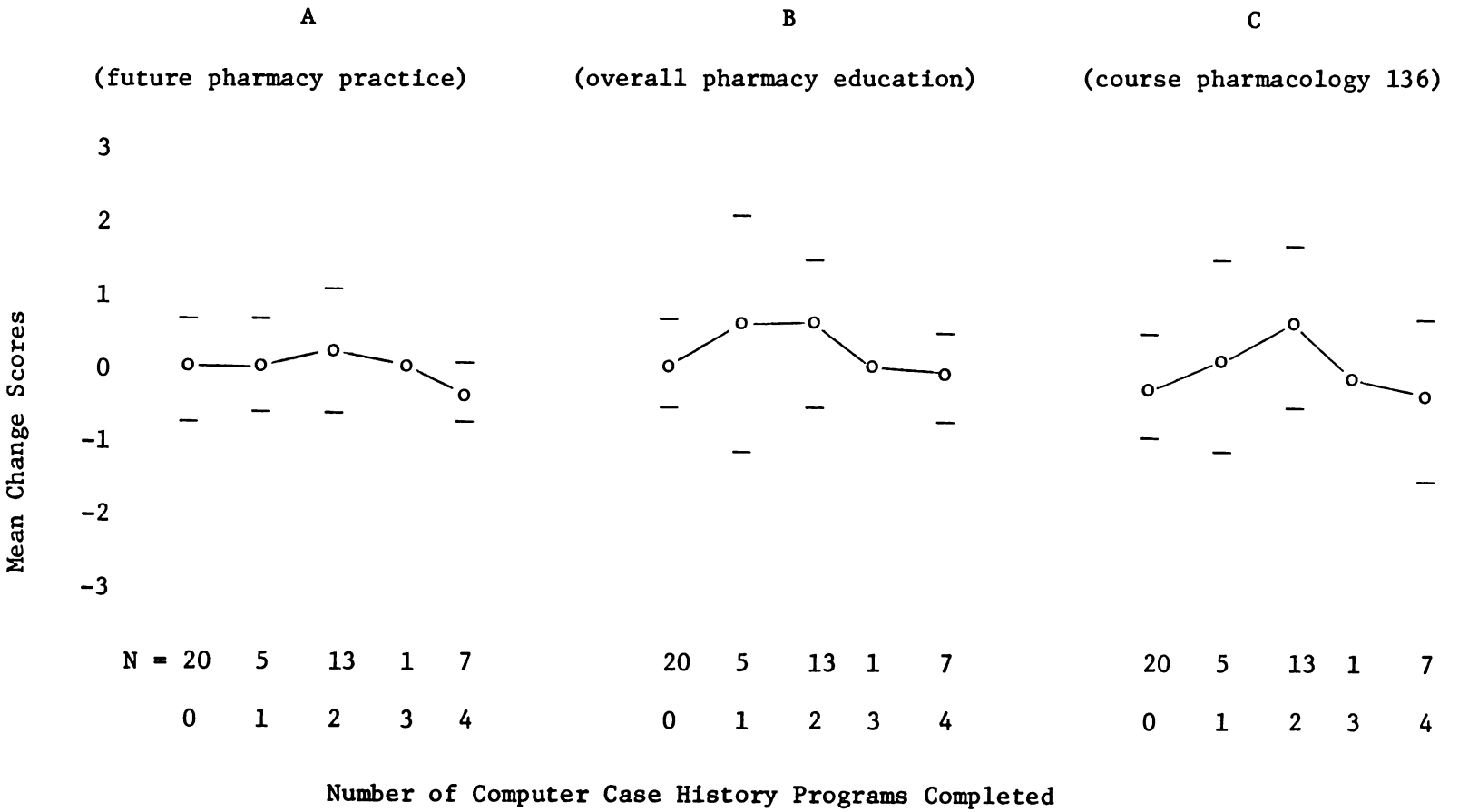

Figure 2. Relationship of Student Attitudes and Use of Computer Case History Programs. Each data point (o) represents the mean difference between pre- and post-test ratings for item #6 of the questionnaire (patient compliance). The horizontal bars (—) represent 95% confidence intervals and N is the number of subjects.

Figure 3. Item 26: Patient Therapy Data Base

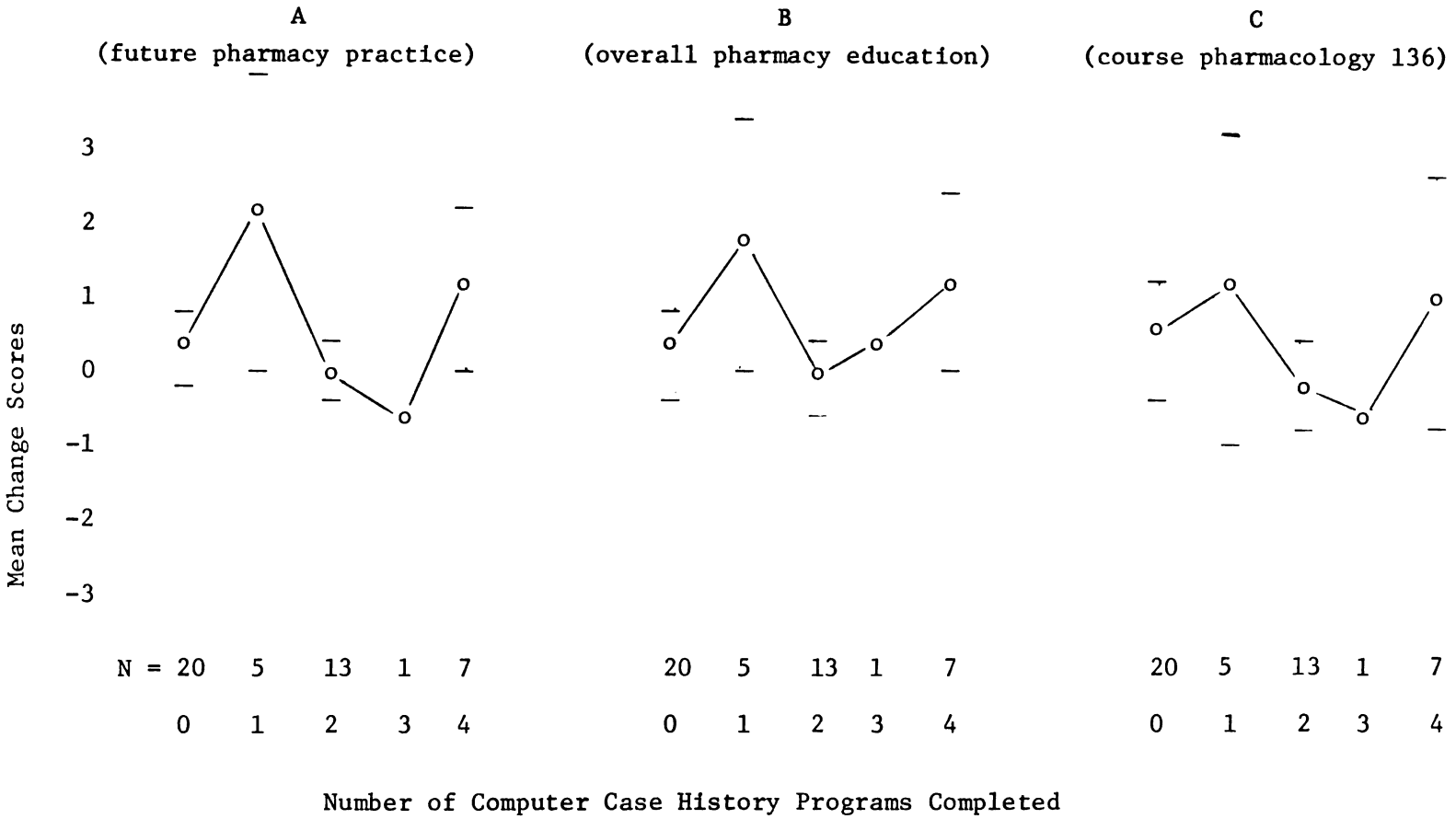

Figure 3. Relationship of Student Attitudes and Use of Computer Case History Programs. Each data point (o) represents the mean difference between pre- and post-test ratings for item #26 (patient therapy data base). The horizontal bars (—) represent 95% confidence intervals and N is the number of subjects.

patient therapy data base were integrated into each computer case history program. These figures show no significant trend, in either item, for greater use of the computer programs to be associated with greater change scores.

Computer Data Tapes. The computer programs automatically recorded all responses. The responses were stored on a data collection tape in summarized form. This stored information included the computer case history number; the sequence number of the question; and the subjects' response. For example: "2Q3,4" would indicate that the subject chose response 4 to the third question in the second computer case history program.

The responses recorded on these automatic data collection tapes indicated that all four of the case history computer exercises had been used: Case History #1: twenty-three times; Case History #2: twenty times; Case History #3: ten times; and Case History #4: eight times. An exact number of individual users could not be determined, however, as the subjects were allowed to go through the computer case histories by themselves or in groups.

Course Evaluation Form. Sixty-eight of ninety students completed the course evlatuation form. Of these sixty-eight subjects, forty-one (60%) did not respond to questions about the computer case histories and presumably did not use the computer case history

exercises.

Twenty-seven students (40% of those completing the course evaluation form) indicated that they had used one or more of the computer case histories on at least one occasion. These students rated the four programs (Table 2A.) on a scale from 1 (poor) to 5 (excellent) with an overall mean rating of 4 for the four case histories based upon sixty different ratings.

These same students indicated unanimously that they would like to see more such self-instructional computer programs developed and used in the curriculum (Table 2B.).

Table 2A. Course Evaluation Results

Ratings of the Computer Case Histories:

Case History		Number of Responses	Mean Rating
1. Narcotic Analgesics:			
poor	1	0	
	2	0	
average	3	8	
	4	10	
excellent	5	5	
		Total = 23	3.9
2. Gout:			
poor	1	0	
	2	1	
average	3	4	
	4	12	
excellent	5	4	
		Total = 21	3.9
3. Sedative-Hypnotics:			
poor	1	0	
	2	0	
average	3	1	
	4	4	
excellent	5	4	
		Total = 9	4.3
4. Parkinsonism:			
poor	1	0	
	2	0	
average	3	0	
	4	3	
excellent	5	4	
		Total = 7	4.6

Table 2B. Course Evaluation Form Results

In favor of using more such computer case histories:

Response	Number of Responses	Percentage
1. Blank (no response)	2	7
2. No Opinion	0	0
3. Yes	25	93
4. No	0	0

DISCUSSION

The results of this study indicate that although students overwhelmingly favored the development and use of more computer aided instructional programs in pharmacology, student attitudes, as assessed by a questionnaire, were not significantly influenced by computer case history usage.

That sudents gave high ratings to the computer aided instructional programs was an expected result based upon sudent opinions from surveys done by the pharmacology department in previous years. However, the result which indicated no correlation between student use of the computer aided instructional programs and student attitudes was not expected.

There are several possible explanations for the lack of a significant change in attitudes in realtion to computer case history usage.

First since the computer aided instructional experience was optional and did not bear the onus of grading and since it was a relatively new and novel educational tool for this group of learners (much akin to an audio-visual game) the students may not have taken their participation "seriously" and this may have contributed to the stability of attitudes. Second and along the same line of thought is the possibility that the duration and intensity of

exposure to the computer aided instructional programs was not sufficient to induce attitudinal changes in the students. In relation to this posssible explanation it is interesting to note that the attitudes examined by this projects' questionnaire seemed very stable over time during the Fall quarter of this project. The few instances in which pre- and post-test differences were statistically significant (8%) were primarily in the course related category (4.3%). It would be expected that as students proceed through a course their perception of the items important to the course would increase and this may account for the majority of course related attitude changes which were observed. Individual item changes in attitudes, however, could not be associated with any specific influences (eg. lectures, laboratories or computer aided instructional programs) and may have been due to chance alone.

Another possibility is that the questionnaire was not adequately designed to measure changes in student attitudes. This is perhaps the least likely of the possibilities. Both the wording and construction of the questionnaire were based upon educational research guidelines (Gage 1963; Nunnally 1959, 1970; Simpson & Koenig 1975) in order to insure that the questionnaire would meet the study requirements of measuring changes in attitudes. Supporting the validity of the questionnaire

is an analysis of the C category (relationship to course) post test ratings. Course related items were rated much higher (mean = 4.0) than non-course items (mean = 2.8). At the end of a quarter it would be expected that students could distinguish between course and non-course items and these results show that this distinction was measured by the questionnaire.

Another explanation is based upon the relatively low number of students who participated in this project. The number was much lower than anticipated based upon previous surveys of student interest in computer aided instructional programs in pharmacology. Only forty-six out of ninety students (51%) completed pre- and post-tests (first and second questionnaires). It should be noted that the students had an extremely heavy clinical pharmacy course load during the Fall quarter of this project. As a recent study points out (Davis & Heller 1976) when student class and study demands exceed sixty hours per week the students cut back somewhere and in this case the new and voluntary participation with the computer aided programs would be a likely candidate to be cut back. The small number of students in each group, as a result of the low participation, increases the difficulty of obtaining statistically significant differences. In addition, it is also possible that the character traits, learning abilities, etc. of the students who chose not to participate may be significantly

different from those students who did participate and thus the results may have been different had all the students participated in this project.

Another possible explanation for the results is the high mean pre-test ratings which the students assigned to the items "patient compliance" and "patient therapy data base". The non-course pre-test ratings for these items was approximately 4 (on a scale from 1 to 5). Thus the subjects already perceived these as important items prior to the initiation of this experiment and the possibility of obtaining a significantly higher post-test rating was very low.

An extensive literature search revealed no similar studies undertaken in the subject area of pharmacology with which the results of this study and the possible interpretations could be compared. Thus no additional support nor detraction can be made for any particular interpretation of the results as presented here.

In conclusion, the data suggests that computer case history usage did not significantly affect student attitudes. Moreover, the data suggests that the attitudes measured were not significantly changed by any events (i.e. pharmacology 136; other courses, etc.) which transpired during the Fall quarter of this project. A definitive interpretation of the results cannot be made however

because of the problems encountered in the project as mentioned in this section.

Based upon experience gained in this study the following recommendations are made. First, evaluation of computer aided instructional material or other self-instructional material should be done in segments of the curriculum where the demands upon student time are not overwhelming. Second, maximal student usage of computer aided instructional material should be encouraged. Last and most importantly, assure that the instrument used for measuring changes in attitudes or learning can actually detect changes if they occur. This is not as easy as it seems and perhaps the best means to guarantee success is to perform a pilot study on a small random sample of the proposed population of subjects.

SUMMARY

This study proposed to determine objectively whether or not student attitudes were significantly changed by the use of computer aided instructional exercises in pharmacology.

The results indicated that although students overwhelmingly liked to use computer aided materials and wanted more developed, the use of computer aided instructional programs in pharmacology did not correlate with a significant change in student attitudes. Interpretation of these results, however, is difficult because of low student participation, the stability of the attitudes measured during the length of the project and the high ratings given to items in the pre-test category.

Based upon this study, future attempts to evaluate computer aided instructional exercises such as the ones used here should include: adequate allotment for student time; provision to make computer aided instructional use compulsory; and a pilot study to insure that the tool used for measuring effects is capable of functioning in the setting chosen.

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APPENDIX

Appendix A: Computer aided instruction programs

Appendix B: Raw data from paired pre- and post-test questionnaires

Appendix C: Pre- and post-test questionnaire mean scores

Appendix D: Post-test letters; course evaluation form

Appendix A. Computer aided instruction programs.

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APPEND:
CH:
T:
T:                              PHARMACOLOGY 136 C.A.I. PROGRAM #1
T:
T:
T:                                    "NARCOTIC ANALGESICS"
T:
T:
T:
T:
T:      COPYRIGHT C 1976                      LAP            ALL RIGHTS RESERVED
WA:6
R:PHARMACOLOGY 136 C.A.I. PROGRAM #1 "NARCOTIC ANALGESICS"

R:15 MINUTE DATAPOINT  PROGRAM BY L.A. PAGLIARO, UCSF, COPYRIGHT C 1976
*Y/N
CH:
T:THIS IS A SHORT (15 MINUTE) PROGRAM ON NARCOTIC ANALGESICS.
T:WOULD YOU LIKE TO GO THROUGH IT?
A1:
R:GO THROUGH PROGRAM OR NOT
R:*1Y/N
WRITE:
M: N,
TY:THAT'S OKAY.  MAYBE SOME OTHER TIME . . .
WAY:3
EY:
M: Y,
JY:*ID
T:YOUR RESPONSE IS NOT RECOGNIZABLE - PLEASE TYPE YES OR NO
WA:2
J:*Y/N
*ID
CHY:
TY:GOOD
TY:BEFORE WE BEGIN WILL YOU PLEASE IDENTIFY WHAT TYPE OF USER YOU ARE:
TY:1. 2ND YR MED STUDENT              6. 2ND YR PHARM STUDENT
TY:2. 3RD YR MED STUDENT              7. 3RD YR PHARM STUDENT
TY:3. 4TH YR MED STUDENT              8. 4TH YR PHARM STUDENT
TY:4. HOUSE STAFF MEMBER              9. FACULTY MEMBER
TY:5. NURSING STUDENT                 0. GRADUATE STUDENT
*USER
CA:8
CE:8
A1:
R:*1USER
WRITE:
M: 1 , 2 , 3 , 4 , 5 , 6 , 8 , 9 , 0,
TY:THANK YOU - NOW LET'S BEGIN
WAY:2
JY:*BEGIN
M: 7,
CHY:
TY:PLEASE ENTER YOUR SOCIAL SECUTITY NUMBER(S) IN "CODE" (IN ORDER TO MAINTAIN
TY:YOUR ANONYMITY) AND PRESS "ENTER" WHEN READY.
TY:IF YOU DO NOT REMEMBER IT, HERE IS HOW IT IS DERIVED:
TY:EXAMPLE:  IF YOUR SOCIAL SECURITY NUMBER IS:  545  47  9862
TY:          CROSS OUT:                          54   4    8
```

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TY:          AND ENTER:                              5   7  9 62
A:
R:*1SS#
WRITE:
TY:THANK YOU - NOW LET'S BEGIN
WAY:3
JY:*BEGIN
T: YOUR ANSWER IS NOT RECOGNIZABLE - PLEASE TYPE 1, 2, 3, 4, 5, 6, 7, 8, 9 OR 0
WA:2
J:*USER
*BEGIN
CH:
CA:2,10
T: P.S. YOU MAY WANT TO TAKE SOME NOTES DURING THIS EXERCISE
CA:8,25
T:ONE MOMENT PLEASE - TAPE BEING READ
R:*1Y/N
R:*1USER
R:*1SS#
R:*1Q1
R:*1Q2
R:*1Q3
R:*1Q4
R:*1Q5
R:*1Q6
R:*1Q7
R:*1Q8
R:*1Q9
CA:12,25
READ:
&
CA:12,25
CL:
T:PLEASE PRESS ENTER TO BEGIN . . .
CA:12,70
A:
CH:
T:
T:M.K. A 29 YEAR OLD BLACK MALE WAS FIRST SEEN AT U.C. EMERGENCY ROOM
T:ABOUT 3 YEARS AGO PRESENTING AT 11:30PM WITH A CHIEF COMPLAINT OF
T:SEVERE BACK PAIN AND ASKING FOR "ABOUT 30 CODEINE PAIN PILLS".
CA:12,25
CL:
T:PLEASE PRESS "ENTER" TO CONTINUE . . .
CA:12,70
A:
CH:
T:WHICH OF THE FOLLOWING WAS THE MOST APPROPRIATE COURSE OF ACTION?
T: 1. GIVE #30 "EMPIRIN" WITH CODEINE 30MG
T: 2. GIVE #30 "TYLENOL" WITH CODEINE 30MG
T: 3. GIVE #30 ASPIRIN TABLETS
T: 4. TELL THE PATIENT TO USE A HEATING PAD
T: 5. GIVE A DIFFERENT MEDICATION
T: 6. OBTAIN MORE INFORMATION
*Q1
CA:8
CE:8
A1:
R:*1Q1
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WRITE:
M: 1 , 2 , 3 , 4 , 5,
TY:NO  YOU MAY HAVE HAD A GOOD REASON FOR YOUR CHOICE - BUT YOU PROBABLY
TY:NEED SOME MORE INFORMATION FIRST . . .
WAY:5
JY:*Q2N
M:6,
TY:GOOD
WAY:2
JY:*Q2N
T:YOUR RESPONSE IS NOT RECOGNIZABLE - PLEASE TYPE 1, 2, 3, 4, 5 OR 6
WA:2
J:*Q1
*Q2N
CH:
T: WHICH OF THE FOLLOWING SHOULD HAVE BEEN OBTAINED PRIOR TO DECIDING
T: WHAT TO DO?
T:  1. DRUG HISTORY                        4. ALL OF THE ABOVE
T:  2. PHYSICAL EXAMINATION                5. NONE OF THE ABOVE
T:  3. REVIEW OF MEDICAL HISTORY
*Q2
CA:6
CE:6
A1:
R:*1Q2
WRITE:
M: 1 , 2 , 3,
TY:OKAY - BUT YOU MISSED SOME.     TRY AGAIN
WAY:2
JY:*Q2
M:5,
TY:NO  I DO NOT THINK THAT YOU READ THE QUESTION CORRECTLY.  TRY AGAIN.
WAY:2
JY:*Q2
M:4,
CHY:
TY:RIGHT  ALL TO OFTEN THERAPEUTIC DECISIONS ARE MADE PREMATURELY WITHOUT
TY:FIRST ESTABLISHING AN ADEQUATE DATA BASE.  FAMILY HISTORY, MEDICATIONS
TY:NOW ON, ALLERGIES, CURRENT AND PAST MEDICAL HISTORY ARE ALL VARIABLES
TY:WHICH SHOULD BE CONSIDERED PRIOR TO MAKING A THERAPEUTIC DECISION.
JY:*Q3N
T: YOUR RESPONSE IS NOT RECOGNIZABLE - PLEASE TYPE 1, 2, 3, 4 OR 5
WA:2
J:*Q2
*Q3N
CA:12,25
READ:
&
CA:12,25
CL:
T:PLEASE PRESS "ENTER" TO CONTINUE . . .
CA:12,70
A:
CH:
T: THE FOLLOWING INFORMATION WAS SUBSEQUENTLY OBTAINED:
T: M.K. WAS NOT CURRENTLY TAKING ANY MEDICATIONS; AN ASPIRIN ALLERGY
T: WAS DOCUMENTED.  HIS PHYSICAL EXAMINATION WAS WITHIN NORMAL LIMITS
T: ALTHOUGH HIS BLOOD PRESSURE WAS A LITTLE LOW AND HIS RESPIRATION
T: SEEMED SLIGHTLY DEPRESSED.
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T:
T: M.K. RELATED THAT HE "FELL OFF OF A LADDER AT HOME" AND HURT HIS BACK.
T: THERE WERE NO BRUISES OR BROKEN BONES, BUT BASED UPON THE PATIENT'S
T: VERBAL HISTORY IT WAS DECIDED TO GIVE HIM SOME MEDICATION FOR HIS PAIN.
CA:12,25
READ:
&
CA:12,25
CL:
T: PLEASE PRESS "ENTER" TO CONTINUE . . .
CA:12,70
A:
CH:
T:WHICH OF THE FOLLOWING WAS THE MOST APPROPRIATE PRESCRIPTION FOR M.K.?
T: 1. #30 EMPIRIN WITH CODEINE 30MG; I-II Q 4-6 H PRN PAIN
T: 2. #50 TYLENOL WITH CODEINE 30MG; I-II Q 4-6 H PRN PAIN
T: 3. #100 ASPIRIN; I-II Q 4-6 H PRN PAIN
T: 4. #20 TYLENOL WITH CODEINE 30MG; I-II Q 4-6 H PRN PAIN
T: 5. #40 CODEINE SULFATE; I-II Q 4-6 H PRN PAIN
*Q3
CA:7
CE:7
A1:
R:*1Q3
WRITE:
M: 1,
TY:NO   EMPIRIN IS THE TRADE NAME FOR A COMPOUND WHICH CONTAINS: ASPIRIN,
TY:PHENACETIN AND CAFFEINE.
WAY:3
CAY:8
CEY:8
JY:*CONT
JY:*Q3
M:2,
CHY:
TY:NO  THE CHOICE OF MEDICATION AND DIRECTIONS FOR USE ARE ALRIGHT BUT THE
TY:NUMBER DISPENSED IS TOO GREAT. TWENTY TABLETS WOULD HAVE BEEN SUFFICIENT
JY:*Q4A
M:3,
TY:NO
*CONT
TY: FROM THE DATA COLLECTION IT WAS ASCERTAINED THAT M.K. HAS A POSITIVE
TY:HISTORY OF ASPIRIN ALLERGY. THIS DECISION MAY HAVE RESULTED IN A LIFE
TY:THREATENING REACTION FOR M.K.  TO COLLECT PATIENT DATA AND NOT USE IT
TY:IS WORSE THAN NOT COLLECTING IT AT ALL         TRY AGAIN.
WAY:9
JY:*Q3
M:5,
TY:NO   THE NUMBER OF TABLETS IS TOO LARGE FOR THE ACUTE TREATMENT OF THE
TY:PROBLEM M.K. PRESENTS WITH. THERE IS ALSO THE POTENTIAL FOR ADDICTS
TY:TO DISSOLVE THE CODEINE TABLETS AND INJECT THE SOLUTION INTRAVENOUSLY
TY:TRY AGAIN
WAY:7
JY:*Q3
M:4,
TY:RIGHT
JY:*Q4A
T:YOUR RESPONSE IS NOT RECOGNIZABLE PLEASE TYPE 1, 2, 3, 4 OR 5
WA:2
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J:*Q3
*Q4N
CA:12,25
READ:
&
CA:12,25
CL:
T:PLEASE PRESS "ENTER" TO CONTINUE . . .
CA:12,70
A:
CH:
T: THE TYLENOL WITH CODEINE WAS CHOSEN BECAUSE THE PATIENT IS
T:ALLERGIC TO ASPIRIN.  TYLENOL (ACECAMINOPHEN) IS EQUIVALENT MILLIGRAM
T:PER MILLIGRAM TO ASPIRIN (ACETYLSALICYLIC ACID) IN ANALGESIC AND
T:ANTIPYRETIC EFFECT. IT DOES NOT, HOWEVER, POSSESS THE ANTI-INFLAMMATORY
T:PROPERTIES OF ASPIRIN.
T:THE DIRECTIONS GIVEN ARE CONSISTENT WITH THOSE RECOMMENDED FOR TREATMENT
T:OF MILD TO MODERATE PAIN. THE NUMBER OF TABLETS IS APPROPRIATE FOR
T:THE ACUTE PROBLEM BEING TREATED AND WOULD SUFFICE THROUGH THE NIGHT AND
T:THE NEXT DAY AT WHICH TIME THE PATIENT COULD SEE A PHYSICIAN DURING
T:REGULAR OFFICE HOURS AND HAVE THE PROBLEM MORE COMPLETELY WORKED-UP
T:AND FOLLOWED IF NECESARY.
CA:12,25
READ:
&
CA:12,25
CL:
T:PLEASE PRESS "ENTER" TO CONTINUE . . .
CA:12,70
A:
CH:
T:
T:TWO NIGHTS LATER AT 8 P.M. M.K. WAS AGAIN SEEN AT U.C. EMERGENCY ROOM
T:WITH THE SAME COMPLAINT AS BEFORE AND ASKED "FOR A FEW MORE PAIN PILLS."
T:HISTORY AND PHYSICAL WERE ESSENTIALLY THE SAME AS TWO NIGHTS BEFORE.
CA:12,25
READ:
&
CA:12,25
CL:
T:PLEASE PRESS "ENTER" TO CONTINUE . . .
CA:12,70
A:
CH:
T:DO YOU THINK THAT THE SAME MEDICATION SHOULD HAVE BEEN DISPENSED? (YES/NO)
*Q4
CA:2
CE:2
A1:
R:*1Q4
WRITE:
M:Y,
TY:THIS IS PROBABLY NOT THE BEST CHOICE SINCE THE PATIENT  WAS TAKING
TY:THE MEDICATION TOO FREQUENTLY (OVER-COMPLYING) EITHER BECAUSE OF MISUSE
TY:OR BECAUSE THE PAIN WAS NOT BEING ALLEVIATED.
TY:REMEMBER: ANALGESICS RELIEVE THE SYMPTOM "NOT" THE CAUSE OF PAIN
TY:
TY:M.K. WAS GIVEN #20 PLAIN TYLENOL TABLETS  AND TOLD TO MAKE
TY:AN APPOINTMENT IN THE MORNING IN THE ORTHOPEDIC CLINIC FOR A FURTHER
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TY:WORK-UP OF HIS PERSISTENT BACK PAIN.
JY:*Q5N
M:N,
TY:THIS IS PROBABLY THE BEST CHOICE SINCE THE PATIENT WAS TAKING THE PILLS
TY:TOO FREQUENTLY (OVER-COMPLYING) EITHER BECAUSE THE PAIN WAS NOT BEING
TY:RELIEVED OR BECAUSE OF MISUSE.
TY:REMEMBER: ANALGESICS RELIEVE THE SYMPTOM "NOT" THE CAUSE OF PAIN
TY:
TY:M.K. WAS GIVEN TWENTY PLAIN TYLENOL TABLETS AND TOLD TO MAKE AN
TY:APPOINTMENT IN THE MORNING FOR A WORK-UP OF HIS BACK PAIN IN THE
TY:ORTHOPEDIC CLINIC.
JY:*Q5N
T:YOUR RESPONSE IS NOT RECOGNIZABLE - PLEASE TYPE YES OR NO
WA:2
J:*Q4
*Q5N
CA:12,25
READ:
&
CA:12,25
CL:
T:PLEASE PRESS "ENTER" TO CONTINUE . . .
CA:12,70
A:
CH:
T:
T:                                    "UPDATE"
T:
T:ONE YEAR AGO M.K. WAS SEEN AGAIN.  THIS TIME IT WAS AT SAN FRANCISCO
T:GENERAL HOSPITAL'S EMERGENCY ROOM WHERE THE POLICE HAD BROUGHT M.K.
T:FOR TREATMENT OF SUSPECTED NARCOTIC WITHDRAWAL.
CA:12,25
READ:
&
CA:12,25
CL:
T:PLEASE PRESS "ENTER" TO CONTINUE . . .
CA:12,70
A:
CH:
T:WHICH OF THE FOLLOWING SIGNS AND SYMPTOMS ARE TYPICAL FOR THE NARCOTIC
T:ANALGESIC WITHDRAWAL SYNDROME?
T: 1. PUPILS CONSTRICTED                  6. PULMONARY EDEMA
T: 2. RESPIRATION DEPRESSED               7. SENSORIUM DEPRESSED
T: 3. BLOOD PRESSURE DEPRESSED            8. COMBINATION OF THE ABOVE
T: 4. COMA                                9. ALL OF THE ABOVE
T: 5. SHOCK                               0. NONE OF THE ABOVE
*Q5
CA:8
CE:8
AL:
R:*1Q5
WRITE:
M: 1 , 2 , 3 , 4 , 5 , 6 , 7,
TY:NO   THIS A SIGN OF "ACUTE INTOXICATION" NOT "WITHDRAWAL"    TRY AGAIN.
WAY:2
JY:*Q5
M:8 ,9,
CHY:
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TY:NO   ALL THE LISTED SIGNS AND SYMPTOMS ARE TYPICAL OF "ACUTE INTOXICATION"
TY:NOT "WITHDRAWAL"
WAY:3
JY:*NEXT
M:0,
TY:RIGHT
WAY:1
JY:*NEXT
T:YOUR RESPONSE IS NOT RECOGNIZABLE - PLEASE TYPE 1 , 2 , 3 , 4 , 5 , 6 ,
T:7 , 8 , 9 OR 0
WA:3
J:*Q5
*NEXT
CH:
T:THE SIGNS AND SYMPTOMS OF THE "WITHDRAWAL SYNDROME" INCLUDE THE FOLLOWING:
T:PUPILS DILATED; PUPILS REACTIVE TO LIGHT; BLOOD PRESSURE ELEVATED;
T:TEMPERATURE ELEVATED; RESPIRATORY RATE ELEVATED; MUSCULAR ACHES AND
T:TWITCHES; TREMORS; NAUSEA; VOMITING; DIARRHEA; DEHYDRATION; ANOREXIA;
T:CHILLS; LACRIMATION; RHINORRHEA; GOOSE FLESH; YAWNING; RESTLESSNESS
T:FOLLOWED BY SLEEP. CONVULSIONS MAY OCCUR DURING WITHDRAWAL FROM MEPERIDINE.
T:THE SIGNS AND SYMPTOMS LISTED ABOVE MAY VARY AND DEPEND LARGELY UPON
T:THE DEGREE OF PHYSICAL DEPENDENCE PRESENT WHICH IN TURN DEPENDS UPON
T:THE FREQUENCY AND DOSE OF DRUG BEING USED.
CA:12,25
READ:
&
CA:12,25
CL:
T:PLEASE PRESS "ENTER" TO CONTINUE . . .
CA:12,70
A:
CH:
T:WHAT WOULD M.K.'S CHANCES OF LIVING THROUGH UNMEDICATED WITHDRAWAL
T:(GOING COLD TURKEY) BE?
T:          1. ALMOST ZERO              3. TEN PERCENT
T:          2. ONE PERCENT              4. ALMOST ONE HUNDRED PERCENT
*Q6
CA:5
CE:5
A1:
R:*1GE
WRITE:
M: 1 , 2 , 3,
TY:NO
WAY:1
JY:*CONT
M:4,
TY:RIGHT
WAY:1
*CONT
TY:ALMOST 100% OF ADULT NARCOTIC ADDICTS LIVE THROUGH UNTREATED WITHDRAWAL.
TY:ACCORDING TO THE "MEDICAL LETTER" AS OF 1973 "NO DEATHS HAVE OCCURED IN
TY:NEW YORK CITY IN ADULT HEROIN ADDICTS FROM UNMEDICATED WITHDRAWAL."
JY:*Q7N
T:YOUR RESPONSE IS NOT RECOGNIZABLE - PLEASE TYPE 1, 2, 3 OR 4
WA:2
J:*Q6
*Q7N
CA:12,25
```

```
READ:
&
CA:12,25
CL:
T:PLEASE PRESS "ENTER" TO CONTINUE . . .
CA:12,70
A:
CH:
T:WHICH OF THE FOLLOWING DRUGS IS USED TO TREAT NARCOTIC ANALGESIC WITHDRAWAL?
T:
T:        1. RESERPINE    2. METHADONE  3. SECOBARBITAL  4. NALOXONE
*Q7
CA:4
CE:4
A1:
P:*1Q7
WRITE:
M:1,
TY:NO     RESERPINE ADDS TO THE SYMPTOMS OF WITHDRAWAL.     TRY AGAIN
WAY:2
JY:*Q7
M:3,
TY:NO     THE COMPLETE SUPPRESSION OF WITHDRAWAL SYMPTOMS CANNOT BE ACHIEVED
TY:WITH LESS THAN ANESTHETIC DOSES OF SEDATIVE-HYPNOTICS.  TRY AGAIN
WAY:4
JY:*Q7
M:2,
CHY:
TY:RIGHT  THE ADMINISTRATION OF METHADONE (OR ANY MORPHINE LIKE DRUG)
TY:PROMPTLY RELIEVES THE NARCOTIC ANALGESIC WITHDRAWAL SYNDROME. THE
TY:APPROVED METHOD OF GIVING METHADONE UNDER THESE CONDITIONS IS AN
TY:INITIAL ORAL  DOSE OF 10 TO 20 MG AND ADDITIONAL DOSES GIVEN EACH TIME
TY:WITHDRAWAL SYMPTOMS REAPPEAR (THE TOTAL DOSE ON THE FIRST DAY
TY:USUALLY RANGES FROM 20 TO 50 MG).
TY:METHADONE IS THEN GIVEN TWICE DAILY WITH A 20% DAILY REDUCTION IN DOSE.
TY:MOST PATIENTS ARE FREE OF THE MAJORITY OF SIGNS AND SYMPTOMS OF
TY:WITHDRAWAL WITHIN A WEEK.
JY:*Q8N
M:4
TY:NO  THE USE OF NALOXONE (A NARCOTIC ANTAGONIST) WOULD AGGRAVATE AND
TY:INTENSIFY THE SYMPTOMS OF NARCOTIC ANALGESIC WITHDRAWAL.  TRY AGAIN
WAY:4
JY:*Q7
T:YOUR RESPONSE IS NOT RECOGNIZABLE - PLEASE TYPE 1, 2, 3 OR 4
WA:2
J:*Q7
*Q8N
CA:12,25
CA:12,25
CA:12,25
READ:
&
CA:12,25
CL:
T:PLEASE PRESS "ENTER" TO CONTINUE . . .
CA:12,70
A:
CH:
T:
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```
T:
T:M.K. WAS TREATED WITH METHADONE FOR HIS WITHDRAWAL  AND WAS SUBSEQUENTLY
T:ENROLLED IN A "METHADONE MAINTENANCE PROGRAM" FOR HEROIN ADDICTS.
CA:12,25
READ:
&
CA:12,25
CL:
T:PLEASE PRESS "ENTER" TO CONTINUE . . .
CA:12,70
A:
CH:
T:
T:                                  "UPDATE"
T:
T:TWO MONTHS AGO M.K. WAS AGAIN BROUGHT INTO THE SAN FRANCISCO GENERAL
T:HOSPITAL'S EMERGENCY ROOM, BUT THIS TIME IT WAS IN AN AMBULANCE.
T:
T:
T:BASED UPON HIS PAST MEDICAL HISTORY AND THE PHYSICAL TRIAD OF COMA,
T:PINPOINT PUPILS AND RESPIRATORY DEPRESSION, HEROIN OR METHADONE
T:OVERDOSE WAS SUSPECTED.
CA:12,25
READ:
&
CA:12,25
CL:
T:PLEASE PRESS "ENTER" TO CONTINUE . . .
CA:12,70
A:
CH:
T:WHICH OF THE FOLLOWING IS THE DRUG OF CHOICE IN TREATING NARCOTIC ANALGESIC
T:INTOXICATION (OVERDOSAGE)?
T:
T:1.NALOXONE   2.METHADONE   3.NALORPHINE   4.SECOBARBITAL   5.LEVALLORPHAN
*Q8
CA:5
CE:5
A1:
R:*1Q8
WRITE:
M:3 , 5,
TY:OKAY, THIS IS A NARCOTIC ANTAGONIST BUT IT POSSESSES SOME AGONISTIC
TY:PROPERTIES AS WELL.  THERE IS A BETTER SPECIFIC ANTAGONIST AVAILABLE.
TY:TRY AGAIN
WAY:5
JY:*Q8
M:2,
TY:NO   YOU WOULD NEVER TREAT ACUTE NARCOTIC INTOXICATION WITH ANOTHER
TY:NARCOTIC. THIS WOULD ONLY INCREASE THE INTOXICATION AND POSSIBLY
TY:RESULT IN THE PATIENT'S DEATH. (MAKE SURE YOU UNDERSTAND THE
TY:DIFFERENCE IN TREATMENT FOR "OVERDOSAGE" AS OPPOSED TO "WITHDRAWAL"
WAY:7
JY:*Q8
M:4,
TY:NO   A SEDATIVE-HYPNOTIC WOULD INCREASE RESPIRATORY DEPRESSION AND
TY:MIGHT WELL RESULT IN THE PATIENT'S DEATH.     TRY AGAIN
WAY:4
JY:*Q8
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```
M:1
CHY:
TY:RIGHT  NALOXONE IS THE DRUG OF CHOICE IN THE TREATMENT OF ACUTE
TY:NARCOTIC "INTOXICATION" (OVERDOSAGE).  IT IS A PURE NARCOTIC
TY:ANTAGONIST WITH "NO" AGONISTIC ACTION AND POSSESSES NO RESPIRATORY
TY:DEPRESSANT PROPERTIES. A DOSE OF 0.01 MG/KG SHOULD BE ADMINISTERED
TY:INTRAVENOUSLY AND REPEATED IN FIVE MINUTES IF REQUIRED.
JY:*Q9N
T:YOUR RESPONSE IS NOT RECOGNIZABLE - PLEASE TYPE 1, 2, 3, 4 OR 5
WA:2
J:*Q8
*Q9N
CA:12,25
READ:
&
CA:12,25
CL:
T:PLEASE PRESS "ENTER" TO CONTINUE . . .
CA:12,70
A:
CH:
T:M.K. RESPONDED TO TWO INTRAVENOUS DOSES OF NALOXONE AND APPEARED TO BE
T:THROUGH THE DANGER PERIOD. WHICH OF THE FOLLOWING SHOULD YOU DO NOW?
T: 1. DISCHARGE PATIENT TO POLICE CUSTODY
T: 2. PLACE PATIENT IN GENERAL WARD AND REQUEST CHECKS AT 4 HOUR INTERVALS
T:    TO SEE IF WITHDRAWAL HAS BEGUN
T: 3. PLACE PATIENT IN MEDICAL WARD AND REQUEST VITAL AND NEUROLOGICAL
T:    SIGNS EVERY HALF HOUR
*Q9
CA:8
CE:8
A1:
R:*Q9
WRITE:
M:1
TY:NO     THINK ABOUT THE DURATION OF NALOXONE FOR A MINUTE - THEN TRY AGAIN
WAY:3
JY:*Q9
M:2
TY:THINKING ABOUT WITHDRAWAL IS A GOOD POINT - BUT IF NO ONE CHECKS ON
TY:M.K. FOR 4 HOURS HE MAY NOT HAVE LIVED LONG ENOUGH TO GO THROUGH
TY:WITHDRAWAL.     TRY AGAIN
WAY:6
JY:*Q9
M:3
CHY:
TY:RIGHT  LIKE OTHER NARCOTIC ANTAGONISTS - NALOXONE HAS A SHORT DURATION
TY:OF ACTION (2 TO 3 HOURS). HEROIN, MORPHIN AND MEPERIDINE HAVE SIX TO
TY:TWELVE HOUR DURATIONS OF ACTION, THEREFORE, TOXICITY MAY RECUR UNLESS
TY:NALOXONE IS GIVEN REPEATEDLY EVERY 2 TO 3 HOURS AS NEEDED.
TY:THIS IS PARTICULARLY IMPORTANT FOR METHADONE INTOXICATION. METHADONE
TY:HAS A DURATION OF ACTION OF 24 TO 72 HOURS, THUS A PATIENT WITH ACUTE
TY:METHADONE INTOXICATION MUST BE CAREFULLY MONITORED AND RETREATED AS
TY:NEEDED FOR UP TO 3 DAYS
TY:REMEMBER - FATALITIES HAVE OCCURED AS A RESULT OF THE PREMATURE
TY:DISCONTINUANCE OF NARCOTIC ANTAGONISTS.
JY:*QE
T:YOUR RESPONSE IS NOT RECOGNIZABLE - PLEASE TYPE 1, 2, 3 OR 4
WA:2
```

```
J:*Q°
*QE
CA:12,25
READ:
&
CA:12,25
CL:
T:PLEASE PRESS "ENTER" TO CONTINUE . . .
CA:12,70
A:
CH:
T:
T:
T:
T:
T:                                    "THE END"
T:
T:
T:
T:
T:   WE HOPE THAT THIS PROGRAM HAS BEEN ENJOYABLE AS WELL AS INFORMATIVE
T:
T:                                                                  LAP '76
E:
```

```
APPEND:
CH:
T:
T:                          PHARMACOLOGY 136 C.A.I. PROGRAM #2
T:
T:                                   "GOUT"
T:
T:
T:
T:
T: COPYRIGHT C 1976                   LAP              ALL RIGHTS RESERVED
WA:6
R:PHARMACOLOGY 136 C.A.I. PROGRAM #2  "GOUT"   LAP  COPYRIGHT C 1976
R: A FIFTEEN MINUTE PILOT DATAPOINT PROGRAM BY LOUIS A. PAGLIARO, UCSF, 1976
*Y/N
CH:
T: THIS IS A SHORT (FIFTEEN MINUTE) PROGRAM ON GOUT
T: WOULD YOU LIKE TO GO THROUGH IT?
A1:
R: GO THROUGH PROGRAM OR NOT
R:*2Y/N
WRITE:
M: N,
TY:THAT'S OKAY.  MAYBE SOME OTHER TIME . . .
WAY:3
EY:
M: Y,
JY:*ID
T:YOUR ANSWER IS NOT RECOGNIZABLE - PLEASE TYPE YES OR NO
WA:2
J:*Y/N
*ID
CHY:

TY:GOOD
TY:BEFORE WE BEGIN WILL YOU PLEASE IDENTIFY WHAT TYPE OF USER YOU ARE:
TY:1. 2ND YR MED STUDENT            6. 2ND YR PHARM STUDENT
TY:2. 3RD YR MED STUDENT            7. 3RD YR PHARM STUDENT
TY:3. 4TH YR MED STUDENT            8. 4TH YR PHARM STUDENT
TY:4. HOUSE STAFF MEMBER            9. FACULTY MEMBER
TY:5. NURSING STUDENT               0. GRADUATE STUDENT
*USER
CA:8
CE:8
A1:
R:*2USER
WRITE:
M:1 , 2 , 3 , 4 , 5 , 6 , 8 ,  9 , 0,
TY: THANK YOU  -  NOW LET'S BEGIN
WAY:2
JY:*BEGIN
M: 7 , SEVEN,
CHY:
TY:PLEASE ENTER YOUR SOCIAL SECURITY NUMBER(S) IN "CODE" (IN ORDER TO MAINTAIN
TY:YOUR ANONYMITY) AND PRESS "ENTER" WHEN READY.
TY:IF YOU DO NOT REMEMBER IT, HERE IS HOW THE CODE IS DERIVED:
TY:EXAMPLE:  IF YOUR SOCIAL SECURITY NUMBER IS  545  47  9862
TY:          CROSS OUT                          54   4    8
TY:          AND ENTER                           5   7  9 62
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A:
R:*2SS#
WRITE:
TY:THANK YOU  -  NOW LET'S BEGIN
WAY:2
JY:*BEGIN
T: YOUR ANSWER IS NOT RECOGNIZABLE - PLEASE TYPE 1 , 2 , 3 , 4 , 5 , 6 , 7 ,
T: 8 , 9 , OR 0.
WA:2
J:*USER
*BEGIN
CH:
CA:2,10
T:P.S. YOU MAY WANT TO TAKE SOME NOTES DURING THIS EXERCISE
WA:3
CA:8,25
T:ONE MOMENT PLEASE - TAPE BEING READ
R:*2Y/N
R:*2USER
R:*2SS#
R:*2Q1
R:*2Q2
R:*2Q3
R:*2Q4
R:*2Q5
R:*2Q6
R:*2Q7
R:*2Q8
R:*2Q9
CA:12,25
READ:
&
CA:12,25
CL:
T:PLEASE PRESS "ENTER" TO BEGIN  . . .
CA:12,70
A:
CH:
T: A.M. A SIXTY YEAR OLD WHITE MALE WITH A SEVEN YEAR HISTORY OF HYPERTENSION
T: CAME TO U.C. IN 1973 FOR HIS COMPLETE ANNUAL PHYSICAL.  THE RESULTS
T: OF HIS PHYSICAL EXAM WERE WITHIN NORMAL LIMITS AND HIS HYPERTENSION SEEMED
T: WELL CONTROLLED (HEART RATE 85, BLOOD PRESSURE 135/85). URINALYSIS  AND
T: BLOOD CHEMISTRIES WERE NORMAL (SEE BELOW) - EXCEPT FOR A HIGH URIC ACID.
T:       LAB BLOOD CHEMISTRY REPORT (NORMAL RANGE IN PARENTHESIS)
T: CREATININE 0.9 (0.7-1.5MG%)                SODIUM 142 (137-147MEQ/L)
T: BLOOD UREA NITROGEN 16 (10-20MG%)          POTASSIUM 5 (3.5-5.5MEQ/L)
T: GLUCOSE 98 (80-120MG%)                     CALCIUM 5 (4-6MEQ/L)
T: URIC ACID 10 (3-9MG%)                      MAGNESIUM 3 (1-4MEQ/L)
T: CHOLESTEROL 285 (150-300MG%)               BICARBONATE 27 (25-29MEQ/L)
CA:12,25
READ:
&
CA:12,25
CL:
T: PLEASE PRESS "ENTER" TO CONTINUE . . .
CA:12, 70
A:
CH:
T: WHICH OF THE FOLLOWING MEDICATIONS SHOULD BE USED TO TREAT A.M.?
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T: 1. COLCHICINE
T: 2. ALLOPURINOL
T: 3. SULFINPYRAZONE
T: 4. PROBENECID
T: 5. NONE OF THE ABOVE
*Q1
CA:7
CE:7
A1:
R:*2Q1
WRITE:
M: 1, 2, 3, 4,
TY:NO    ALL TO OFTEN THERAPEUTIC DECISIONS ARE MADE PREMATURELY WITHOUT FIRST
TY:ESTABLISHING AN ADEQUATE DATA BASE. FAMILY HISTORY, DRUGS NOW ON, CURRENT
TY:AND PAST MEDICAL HISTORY ARE ALL VARIABLES WHICH SHOULD BE CONSIDERED
TY:PRIOR TO MAKING A THERAPEUTIC DECISION.
WAY:3
JY:*Q3N
M: 5,
CHY:
TY: GOOD - BUT WHAT WOULD YOU DO?
JY:*Q2N
T: YOUR ANSWER IS NOT RECOGNIZABLE - PLEASE TYPE 1, 2, 3, 4 OR 5
WA:2
J:*Q1
*Q2N
T: 1. USE DIFFERENT DRUG
T: 2. USE "NO" DRUG
T: 3. USE DIFFERENT THERAPY
T: 4. DO NOTHING
T: 5. OBTAIN PROPER PATIENT DATA BASE
*Q2
CA:7
CE:7
A1:
R:*2Q2
WRITE:
M: 1, 2, 3, 4,
TY: YOU'VE GOTTEN OFF THE TRACK  -  TRY AGAIN
JY:*Q2
M: 5,
CHY:
TY: RIGHT  ALL TO OFTEN THERAPEUTIC DECISIONS ARE MADE PREMATURELY WITHOUT
TY: FIRST ESTABLISHING AN ADEQUATE DATA BASE. FAMILY HISTORY, DRUGS NOW ON,
TY: CURRENT AND PAST MEDICAL HISTORY ARE ALL VARIABLES WHICH SHOULD INFLUENCE
TY: YOUR THERAPEUTIC DECISIONS.
JY:*Q3N
T: YOUR ANSWER IS NOT RECOGNIZABLE - PLEASE TYPE 1 , 2 , 3 , 4 , OR 5
J:*Q2
*Q3N
CA:12,25
READ:
&
CA:12,25
CL:
T: PLEASE PRESS "ENTER" TO CONTINUE . . .
CA:12,70
A:
CH:
```

```
T: BY MEANS OF A MEDICATION PROFILE INTERVIEW AND A CLOSER EXAMINATION OF
T: A.M.'S CHART IT WAS LEARNED THAT A.M.  HAD NEITHER A PERSONAL
T: NOR FAMILIAL HISTORY OF GOUT AND THAT HE HAD NOT EXPERIENCED ANY
T: SYMPTOMS.  HIS MEDICATIONS AT THAT TIME INCLUDED HYDROCHLOROTHIAZIDE
T: (100 MG/DAY) AND ALPHAMETHYLDOPA (1 GM PER DAY).
CA:12,25
READ:
&
CA:12,25
CL:
T: PLEASE PRESS "ENTER" TO CONTINUE . . .
CA:12,70
A:
T:
CH:
T: BASED UPON THIS ADDITIONAL INFORMATION WHAT COURSE OF ACTION WAS MOST
T: APPROPRIATE?
T: 1. PUT PATIENT ON PROPHYLACTIC COLCHICINE
T: 2. PUT PATIENT ON PROPHYLACTIC ALLOPURINOL
T: 3. PUT PATIENT ON PROPHYLACTIC PROBENECID
T: 4. PUT PATIENT ON COMBINATION OF ABOVE DRUGS
T: 5. NO TREATMENT AT THIS TIME
*Q3
CA:8
CE:8
A1:
R:*2Q3
WRITE:
M: 1, 2, 3, 4,
CHY:
TY: NO   WITHOUT ADDITIONAL CAUSE, I.E. PATIENT SYMPTOMS, HIGHER URIC
TY: ACID LEVEL, ETC., PROPHYLLACTIC THERAPY WOULD NOT BE JUSTIFIED
TY: AND MAY RESULT IN: 1. UNNECESSARY EXPENSE; 2. INCONVENIENCE TO
TY: PATIENT; 3. POSSIBILITY OF SIDE EFFECTS; AND 4. QUESTIONABLE RESULTS.
TY:
TY:
TY: IT WAS DECIDED TO DISCHARGE A.M. AND TO WITHHOLD THERAPY UNTIL A.M.'S URIC
TY: ACID LEVEL INCREASED ABOVE 12MG% OR A.M. DEVELOPED SYMPTOMS OF GOUT.
JY:*Q5N
M: 5,
CHY:
TY: YES  - BUT WHY??
WAY:1
JY:*Q4N
T: YOUR ANSWER IS NOT RECOGNIZABLE - PLEASE TYPE 1, 2, 3, 4 OR 5
WA:2
J:*Q3
*Q4N
T: 1. NO SYMPTOMS                        2. NO PAST HISTORY
T: 3. OTHER TESTS NORMAL                 4. URIC ACID NOT "THAT" HIGH
T: 5. ALPHAMETHYLDOPA MAY HAVE INTERFERED WITH THE MEASUREMENT OF URIC ACID IF
T:    THE PHOSPHOTUNGSTATE TEST WAS USED - RESULTING IN A "FALSE POSITIVE"
T: 6. HYDROCHLOROTHIAZIDE INHIBITS TUBULAR RENAL SECRETION OF URATE  AND MAY
T:    HAVE CONTRIBUTED TO THE PATIENT'S HYPERURICEMIA
T: 7. COMBINATION OF THE ABOVE
T: 8. ALL OF THE ABOVE                   9. NONE OF THE ABOVE
*Q4
CA:10
CE:10
```

```
A1:
R:*2Q4
WRITE:
M: 9,
TY: NO     TRY AGAIN
WAY:3
JY:*Q4
M: 1, 2, 3, 4, 5, 6, 7,
TY: RIGHT  BUT YOU'VE MISSED SOME.
WAY:2
JY:*Q4
M: 8,
CHY:
TY:
TY:
TY:EXCELLENT  ALL OF THE LISTED FACTORS ARE TRUE AND SHOULD HAVE BEEN
TY:CONSIDERED IN ARRIVING AT YOUR DECISION TO WITHHOLD THERAPY AT THIS TIME.
JY:*Q5N
T: YOUR RESPONSE IS NOT RECOGNIZABLE - PLEASE TYPE 1, 2, 3, 4, 5, 6, 7, OR 8
WA:2
J:*Q4
*Q5N
CA:12
READ:
&
CA:12,25
CL:
T: PLEASE PRESS "ENTER" TO CONTINUE . . .
CA:12,70
A:
CH:
T: TWO UNEVENTFUL YEARS HAVE ELAPSED UNTIL A.M. IS SEEN AGAIN IN 1975.
T: THIS TIME A.M. WAS ADMITTED WITH A CHIEF COMPLAINT OF SEVERE PAIN IN THE
T: GREAT TOE OF HIS RIGHT FOOT.  SUBSEQUENTLY A SERUM URIC ACID LEVEL OF
T: 11 MG% (NORMAL 3-9) WAS OBTAINED. ALL OTHER TESTS WERE NORMAL.
CA:12,25
CL:
T: PLEASE PRESS "ENTER" TO CONTINUE . . .
CA:12,70
A:
CH:
T: UPON EXAMINATION A.M. WAS FOUND TO BE IN GREAT PAIN FROM HIS ATTACK OF GOUT.
T: WHICH OF THE FOLLOWING DRUGS WOULD YOU RECOMMEND?
T: 1. ALLOPURINOL
T: 2. COLCHICINE
T: 3. PROBENECID
T: 4. SULFINPYRAZONE
*Q5
CA:7,
CE:7
A1:
R:*2Q5
WRITE:
M: 1, 3, 4,
TY:NO. THIS DRUG IS USED TO TREAT GOUT BUT DOES NOT PROVIDE RELIEF FROM
TY:ACUTE ATTACKS.  TRY AGAIN.
WAY:3
JY:*Q5
M: 2,
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CHY:
TY:RIGHT  COLCHICINE PRODUCES DRAMATIC IMPROVEMENT IN 2 TO 3 DAYS AND BECAUSE
TY:OF ITS SPECIFICITY IN ALLEVIATING GOUT PAIN IT IS OFTEN USED TO CONFIRM A
TY:TENTATIVE DIAGNOSIS OF GOUT. IT SHOULD BE GIVEN ORALLY (0.5 OR 0.6 MG PER
TY:HOUR) UNTIL: A. THERAPEUTIC EFFECT SEEN; B. SIDE EFFECTS SEEN; OR
TY:C. MAXIMUM OF 4 TO 10 MG TOTAL DOSE IS GIVEN - DEPENDING UPON PATIENTS
TY:BODY WEIGHT.  IT MAY ALSO BE GIVEN INTRAVENOUSLY (2 - 3 MG) AS A SLOW
TY:INFUSION OVER 5 MINUTES. IT IS NOT GIVEN SUBCUTANEOUSLY NOR INTRAMUS-
TY:CULARLY BECAUSE THE SOLUTION IS VERY IRRITATING TO THE TISSUES.
JY:*Q6N
T: YOUR ANSWER IS NOT RECOGNIZABLE - PLEASE TYPE 1 , 2 , 3 , OR 4
WA:2
J:*Q5
*Q6N
CA:12
READ:
&
CA:12,25
CL:
T: PLEASE PRESS "ENTER" TO CONTINUE . . .
CA:12,70
A:
CH:
T: WHAT "COMMON" SIDE EFFECT OR TOXICITY  WOULD YOU EXPECT TO SEE WITH
T: COLCHICINE USE? _____
*Q6
CA:2,18
CE:2,18
A:
R:*2Q6

WRITE:
4: NAUSEA, VOMITING, DIARRHEA, GASTROINTESTINAL, GI, G-I, GASTRO-IN, NVD,
CHY:
TY:RIGHT  GASTROINTESTINAL SIDE EFFECTS - NAUSEA, VOMITING, DIARRHEA -
TY:ARE THE "COMMON" SIDE EFFECTS SEEN WITH COLCHICINE USE.  THE I.V.
TY:ROUTE MAY BE USED TO NEGATE THESE EFFECTS - ESPECIALLY IMPORTANT IN
TY:PATIENTS WITH ACTIVE PEPTIC ULCERS SUFFERING FROM AN ACUTE GOUT ATTACK.
TY:PROLONGED ADMINISTRATION OF THERAPEUTIC DOSES OF COLCHICINE CAN CAUSE
TY:BONE MARROW DEPRESSION AND PERIPHERAL NEURITIS, BUT THESE HAVE NOT BEEN
TY:OBSERVED WITH THE DAILY PROPHYLAXIS DOSES OF 0.5 - 0.6 MG PER DAY.
TY:OVERDOSEAGE CAN RESULT IN SHOCK, VASCULAR DAMAGE, RENAL DAMAGE,
TY:HEMORRHAGIC GASTROENTERITIS OR PARALYSIS.
JY:*Q7N
T: NO. (HINT: "COMMON")    TRY AGAIN.
WA:3
J:*Q6
*Q7N
CA:12
READ:
&
CA:12,25
CL:
T: PLEASE PRESS "ENTER" TO CONTINUE . . .
CA:12,70
A:
CH:
T: A.M. WAS SUBSEQUENTLY DISCHARGED ON A LOW PURINE DIET AND 0.6 MG PER DAY
T: COLCHICINE AS A PROPHYLAXIS AGAINST FUTURE ATTACKS.
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T:
T: ONE YEAR LATER (1976) A.M. IS AGAIN ADMITTED FOR AN ACUTE ATTACK OF GOUTY
T: ARTHRITIS. HE IS SUCCESSFULLY TREATED AS PER HIS LAST ACUTE ATTACK
T: (WITH COLCHICINE) AND IS AGAIN READY TO BE DISCHARGED.
CA:12,25
CL:
T: PLEASE PRESS "ENTER" TO CONTINUE . . .
CA:12,70
A:
CH:
T: SINCE THE DIET AND COLCHICINE OBVIOUSLY WERE NOT EFFECTIVE IN PREVENTING
T: ANOTHER ATTACK OF GOUT - WHICH OF THE FOLLOWING SHOULD NOW BE DONE?
T: 1. KEEP DIET THE SAME AND INCREASE COLCHICINE DOSE UNTIL RESPONSE OR
T:    SIDE EFFECTS SEEN
T: 2. DISCONTINUE DIET BUT KEEP COLCHICINE THE SAME
T: 3. DISCONTINUE DIET AND COLCHICINE AND GIVE: A) PROBENECID
T:    B)SULFINPYRAZONE OR C)ALLOPURINOL
T: 4. KEEP REGMEN THE SAME AND ADD ANOTHER DRUG
T: 5. NONE OF THE ABOVE
*Q7
CA:10
CE:10
A1:
R:*2Q7
WRITE:
M: 1, 2, 3, 4,
TY:NO  YOU ARE GETTING AHEAD OF YOURSELF      TRY AGAIN
WAY:3
JY:*Q7
M: 5,
JY:*Q8N
T:YOUR ANSWER IS NOT RECOGNIZABLE - PLEASE TYPE 1 , 2 , 3 , 4 OR 5
WA:2
J:*Q7
*Q8N
CHY:
T: YOU ARE ON THE RIGHT TRACK BUT COULD YOU BE MORE SPECIFIC ABOUT WHAT YOU
T: WOULD DO?
T:(PLEASE LIMIT YOUR RESPONSE TO ONE LINE AND PRESS "ENTER" WHEN THROUGH)
*Q8
CA:4
CE:4
A:
R:*2Q8
WRITE:
CH:
T: OKAY THERE ARE SEVERAL THINGS WHICH MIGHT BE DONE, BUT THE MOST APPROPRIATE
T: AT THIS TIME WOULD BE TO CHECK INTO COMPLIANCE.
T: PATIENT COMPLIANCE ALTHOUGH OFTEN OVERLOOKED IS A MAJOR FACTOR IN THE
T: SUCCESS OR FAILURE OF ANY THERAPEUTIC PROCEDURE IN WHICH THE PATIENT MUST
T: TAKE HIS OWN MEDICATION OR IN SOME OTHER WAY MUST "COMPLY" WITH A
T: PRESCRIBED REGIMEN (I.E. DIET, RELAXATION, EXERCISE).
CA:12,25
READ:
&
CA:12,25
CL:
T: PLEASE PRESS "ENTER" TO CONTINUE . . .
CA:12,70
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A:
CH:
T: UPON CHECKING IT WAS FOUND OUT THAT A.M. STOPPED TAKING HIS COLCHICINE
T: ABOUT 3 MONTHS AGO BECAUSE HE WAS "FEELING FINE" AND THAT HE HAS STAYED
T: ON HIS DIET EXCEPT "FOR A BEER OR TWO EVERY NOW AND THEN."
T:
T: A.M. IS COUNSELED ON THE IMPORTANCE OF HIS COMPLIANCE IN PREVENTING A
T: RECURRENCE OF ANOTHER GOUTY ATTACK AND IS DISCHARGED FOR THE LAST TIME
T: ON COLCHICINE AND ONE OTHER DRUG.   WHICH ONE?
T: 1. PROBENECID                4. ALLOPURINOL
T: 2. SULFINPYRAZONE            5. ACETAMINOPHEN
T: 3. MORPHINE
*Q9
CA:11
CE:11
A1:
R:*2QS
WRITE:
M: 3 , 5,
TY:NO  THE COLCHICINE WILL TAKE CARE OF THE GOUT PAIN   TRY AGAIN
WAY:3
JY:*QS
M: 1, 2, 4,
CHY:
TY:RIGHT  HOWEVER, EITHER PROBENECID, ALLOPURINOL OR SULFINPYRAZONE COULD HAVE
TY:BEEN THE MEDICATION ADDED TO A.M.'S REGIMEN AS THEY ARE ALL EFFECTIVE IN
TY:DECREASING SERUM URIC ACID LEVELS (IF NECESSARY IT COULD BE DETERMINED
TY:WHETHER A.M. WAS OVERPRODUCING URIC ACID OR NOT EXCRETING ENOUGH THEN
TY:THE CHOICE WOULD HAVE BEEN MORE SPECIFIC AS ALLOPURINOL DECREASES THE
TY:PRODUCTION OF URIC ACID WHILE BOTH PROBENECID AND SULFINPYRAZONE
TY:INCREASE THE URINARY EXCRETION OF URIC ACID).
WAY:16
CHY:
TY:EITHER WAY ONE OF THE ADDITIONAL MEDICATIONS WOULD BE ADDED TO A.M.'S
TY:REGIMEN BECAUSE COLCHICINE DOES NOT DECREASE URIC ACID LEVELS NOR DOES
TY:IT PREVENT THE FORMATION OF URIC ACID TOPHI, THUS A PATIENT TAKING
TY:COLCHICINE ALTHOUGH ASYMPTOMATIC MAY HAVE PROGRESSION OF THE DISEASE
TY:AND THE CONSEQUENT JOINT CHANGES.
JY:*NEXT
T: YOUR RESPONSE IS NOT RECOGNIZABLE - PLEASE TYPE 1 , 2 , 3 , 4 , 5 , OR 6
WA:2
J:*Q9
*NEXT
CA:12
READ:
&
CA:12,25
CL:
T: PLEASE PRESS "ENTER" TO CONTINUE . . .
CA:12,70
A:
CH:
T:
T:
T:
T:                                "THE END"
T:
T:
T:
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T:
T: WE HOPE THAT YOU HAVE FOUND THIS PROGRAM ENJOYABLE AS WELL AS INFORMATIVE
T:
T:                                                                    LAP '76
WA:3
E:
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APPEND:
CH:
T:
T:
T:
T:                    PHARMACOLOGY 136 C.A.I. PROGRAM #3
T:
T:
T:                           "SEDATIVE-HYPNOTICS"
T:
T:
T:COPYRIGHT C 1976                    LAP                ALL RIGHTS RESERVED
WA:4
R:PHARMACOLOGY 136 C.A.I. PROGRAM #3 SEDATIVE-HYPNOTICS
R:15 MINUTE PILOT DATAPOINT PROGRAM BY L. A. PAGLIARO, UCSF, C 1976
*Y/N
CH:
T:THIS IS A SHORT (FIFTEEN MINUTE) PROGRAM ON SEDATIVE-HYPNOTICS.
T:WOULD YOU LIKE TO GO THROUGH IT?
A1:
R:*3Y/N
WRITE:
M:N,
TY:THAT'S OKAY.       MAYBE SOME OTHER TIME . . .
WAY:3
EY:
M:Y,
JY:*CONT
T:YOUR ANSWER IS NOT RECOGNIZABLE - PLEASE TYPE YES OR NO
WA:2
J:*Y/N
*CONT
T:GOOD
WA:2
CH:
T:BEFORE WE BEGIN WILL YOU PLEASE IDENTIFY WHAT TYPE OF USER YOU ARE:
T:     1. 2ND YR MED STUDENT              6. 2ND YR PHARM STUDENT
T:     2. 3RD YR MED STUDENT              7. 3RD YR PHARM STUDENT
T:     3. 4TH YR MED STUDENT              8. 4TH YR PHARM STUDENT
T:     4. HOUSE STAFF MEMBER              9. FACULTY MEMBER
T:     5. NURSING STUDENT                 0. OTHER
*USER
CA:7
CE:7
A1:
R:*3USER
WRITE:
M: 1 , 2 , 3 , 4 , 5 , 6 , 8 , 9 , 0,
TY:THANK YOU  -  NOW LET'S BEGIN
WAY:2
JY:*BEGIN
M:7 ,
CHY:
TY:PLEASE ENTER YOUR SOCIAL SECURITY "CODE" NUMBER(S) (IN ORDER TO MAINTAIN
TY:YOUR ANONYMITY) AND PRESS "ENTER" WHEN READY. IF YOU DO NOT REMEMBER IT,
TY:HERE IS HOW IT IS DERIVED:
TY:                   IF YOUR SOCIAL SECURITY NUMBER IS: 5 4 5   4 7   9 8 6 2
TY:                   CROSS OUT                          5 4     4       8
TY:                   AND ENTER                              5     7   9   6 2
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A:
R:*3SS#
WRITE:
TY:THANK YOU - NOW LET'S BEGIN
WAY:2
JY:*BEGIN
T: YOUR RESPONSE IS NOT RECOGNIZABLE - PLEASE TYPE 1 , 2 , 3 , 4 , 5 , 6 ,
T: 7 , 8 , 9 OR 0
WA:2
J:*USER
*BEGIN
CH:
T:
CA:2,10
T: P.S. YOU MAY WANT TO TAKE SOME NOTES DURING THIS EXERCISE
WA:1
CA:8,25
T:ONE MOMENT PLEASE - TAPE BEING READ
R:*3Y/N
R:*3USER
R:*3SS#
R:*3Q1
R:*3Q2
R:*3Q3
R:*3Q4
R:*3Q5
R:*3Q6
R:*3Q7
R:*3Q8
R:*3Q9
R:*3Q10
CA:12,25
READ:
&
CA:12,25
CL:
T:PLEASE PRESS "ENTER" TO BEGIN . . .
CA:12,70
A:
CH:
T:
T:
T:G.R. A 47 YEAR OLD WHITE FEMALE CAME TO U.C. OUTPATIENT CLINICS COMPLAINING
T:THAT "I JUST CAN'T SLEEP AND NEED SOME SLEEPING PILLS "  HER PHYSICAL EXAM-
T:INATION AND ROUTINE LABORATORY TESTS WERE ALL WITHIN NORMAL LIMITS.
CA:12,25
CL:
T:PLEASE PRESS "ENTER" TO CONTINUE . . .
CA:12,70
A:
CH:
T:WHICH OF THE FOLLOWING COURSES OF ACTION WAS MOST APPROPRIATE?
T:       1. GIVE #100 FLURAZEPAM 30 MG
T:       2. GIVE #30 PENTOBARBITAL 100 MG
T:       3. OBTAIN MORE INFORMATION
T:       4. TELL PATIENT TO GO HOME AND GET SOME SLEEP
T:       5. REFER PATIENT TO PSYCHIATRIC CLINIC
*Q1
CA:7
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CE:7
A1:
R:*3Q1
WRITE:
M: 1 , 2 , 4 , 5,
TY:NO  YOU MAY HAVE A GOOD REASON FOR YOUR CHOICE AND IT MAY EVEN BE THE
TY:MOST APPROPRIATE COURSE OF ACTION BUT NOT AT THIS TIME. THE ESTABLISH-
TY:MENT OF A PROPER ADEQUATE DATA BASE SHOULD ALWAYS PRECEDE ALL THERAPEUTIC
TY:DECISION MAKING PROCESSES.
JY:*Q2N
M: 3 ,
TY:RIGHT  THE ESTABLISHMENT OF A PROPER DATA BASE SHOULD ALWAYS PRECEDE ANY
TY:THERAPEUTIC DECISION.  EVEN WHEN THE IMMEDIATE ANSWER APPEARS OBVIOUS,
TY:A PROPER DATA BASE MAY HELP IN ASSESSING LONG TERM EFFECTS OF THERAPY
TY:AND WILL SERVE AS A BACKGROUND FOR FUTURE THERAPEUTIC DECISIONS.
JY:*Q2N
T:YOUR RESPONSE IS NOT RECOGNIZABLE - PLEASE TYPE 1 , 2 , 3 , 4 OR 5
WA:2
J:*Q1
*Q2N
CA:12,25
READ:
&
CA:12,25
CL:
T:PLEASE PRESS "ENTER" TO CONTINUE . . .
CA:12,70
A:
CH:
T:
T:WHEN ESTABLISHING A DATA BASE IN RELATION TO SEDATIVE-HYPNOTICS THERE ARE
T:CERTAIN TYPES OF PATIENTS WHICH YOU SHOULD BE PARTICULARLY CONCERNED
T:ABOUT IN RELATION TO MAKING YOUR PRELIMINARY THERAPEUTIC DECISION.
T:PLEASE IDENTIFY ONE OF THESE PATIENT TYPES _____
T:(PLEASE LIMIT YOUR RESPONSE TO ONE LINE AND PRESS "ENTER" WHEN THROUGH)
*Q2
CA:7
CE:7
A:
R:*3Q2
WRITE:
M: 1,ALCOHOL,ADDICT,SUICIDE,DRUG ABUSE,DRUG INTERACTIONS,
TY:GOOD  YOU HAVE CORRECTLY IDENTIFIED ONE OF THE PATIENT GROUPS.
WAY:2
JY:*CONT
T:YOUR RESPONSE IS NOT RECOGNIZABLE BUT WE WILL ASSUME YOU HAVE CHOSEN
T:AN APPROPRIATE PATIENT TYPE
WA:2
*CONT
CH:
T: SEVERAL MAJOR GROUPS OF PATIENTS TYPES WHICH MAY PRESENT A PROBLEM
T: AND ARE OFTEN ENCOUNTERED IN CLINICAL PRACTICE ARE:
T: 1. ALCOHOLIC PATIENTS IN WHICH THE POTENTIATION OF CNS DEPRESSION
T:    MAY OCCUR IF A SEDATIVE-HYPNOTIC AND AN ALCOHOLIC BEVERAGE ARE
T:    CONSUMED AT ABOUT THE SAME TIME. THIS MAY BE DELIBERATELY USED
T:    BY ALCOHOLICS SO THAT THE SAME "HIGH" CAN BE ACHIEVED WITH LESS
T:    ALCOHOL CONSUMPTION. NOTE: THIS POTENTIATION CAN BE LETHAL
T: 2. PATIENTS WHO ARE PREDISPOSED TO ABUSING DRUGS BECAUSE OF THE
T:    POTENTIAL OF HABITUATION AND PSYCHOLOGICAL AS WELL AS PHYSICAL
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T:     DEPENDENCE ASSOCIATED WITH MANY OF THESE MEDICATIONS.
T: 3. (PLEASE PRESS "ENTER" TO CONTINUE)
CA:12,
A:
CH:
T: 3. PATIENTS ON OTHER MEDICATIONS WHICH MAY POSSIBLY INTERACT WITH
T:     ONE OR MORE OF THE SEDATIVE-HYPNOTICS. NOTE ESPECIALLY THE
T:     EFFECT OF CHLORAL HYDRATE IN DISPLACING OTHER MEDICATIONS FROM
T:     PROTEIN BINDING SITES (I.E. PHENYLBUTAZONE, WARFARIN, ETC.)
T:     AND OF THE BARBITURATES IN INDUCING HEPATIC MICROSOMAL ENZYMES
T:     AND THUS ALTERING THE METABOLISM OF MEDICATIONS (I.E. WARFARIN, ETC.).
T: 4. PATIENTS WHO MAY WANT TO USE THE MEDICATIONS FOR A SUICIDE
T:     ATTEMPT.
CA:12,25
READ:
&
CA:12,25
CL:
T:PLEASE PRESS "ENTER" TO CONTINUE . . .
CA:12,70
A:
CH:
T:
T:
T:ADDITIONAL INFORMATION REVEALED THAT THE PATIENT HAS NO OTHER CURRENT
T:MEDICAL PROBLEMS AND IS NOT TAKING ANY PRESCRIPTION OR NON-PRESCRIPTION
T:MEDICATIONS AT THIS TIME.
CA:12,25
CL:
T:PLEASE PRESS "ENTER" TO CONTINUE . . .
CA:12,70
A:
CH:
T:OKAY WE HAVE MADE SOME PROGRESS TOWARD A SOLUTION BUT PERHAPS WE SHOULD
T:LOOK AGAIN MORE CLOSELY AT THE PROBLEM.  WHAT WAS THE PATIENT'S CHIEF
T:COMPLAINT? (PLEASE LIMIT YOUR RESPONSE TO ONE LINE AND PRESS ENTER
T:WHEN THROUGH)
*Q3
CA:5
CE:5
A:
R:*3Q3
WRITE:
M: INSOM, SLEEPLE, LACK OF SL, TROUB, DIFF, CAN'T SL, CANNOT SL, CAN NOT SL,
TY:OKAY - BUT . . .
WA:1
JY:*Q4N
T:YOUR RESPONSE IS NOT RECOGNIZABLE - ONE OR TWO WORDS WILL SUFFICE
WA:2
J:*Q3
*Q4N
CA:12,25
READ:
&
CA:12,25
CL:
T:PLEASE PRESS "ENTER" TO CONTINUE . . .
CA:12,70
A:
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CH:
T:WHAT IS INSOMNIA (I.E. WHAT DOES "I CAN'T SLEEP MEAN)?
T: 1. 6 HOURS OF UNINTERRUPTED SLEEP PER NIGHT
T: 2. 2 HOURS OF UNINTERRUPTED SLEEP PER NIGHT
T: 3. FREQUENTLY INTERRUPTED SLEEP
T: 4. 9 HOURS OF SLEEP PER NIGHT
T: 5. COMPLETE INABILITY TO FALL ASLEEP
*Q4
A1:
R:*3Q4
WRITE:
M: 1 , 2 , 3 , 4 , 5 ,
CHY:
TY:OKAY ANY OF THE LISTED CHOICES MIGHT BE DEFINED AS INSOMNIA BUT IT WOULD
TY:DEPEND UPON WHO WAS DEFINING IT.  INSOMNIA IS A PURELY SUBJECTIVE SYMPTOM.
JY:*CONT
T:YOUR RESPONSE IS NOT RECOGNIZABLE - PLEASE TYPE 1 , 2, 3, 4 OR 5
WA:2
J:*Q4
*CONT
T:WHENEVER A POTENTIALLY "SUBJECTIVE" TERM OR PHRASE IS USED BY A PATIENT
T:"NEVER" TAKE FOR GRANTED THAT YOU KNOW WHAT IT MEANS - ALWAYS ASK FOR AND
T:GET CLARIFICATION
CA:12,25
CL:
T:PLEASE PRESS "ENTER" TO CONTINUE . . .
CA:12,70
A:
CH:
T:
T:
T:A FURTHER CLARIFICATION FROM THE PATIENT REVEALED THAT SHE IS ONLY
T:ABLE TO SLEEP ABOUT SEVEN HOURS PER NIGHT BUT HER MAIN CONCERN IS
T:THAT SOME NIGHTS SHE HAS TROUBLE FALLING ASLEEP.
CA:12,25
READ:
&
CA:12,25
CL:
T:PLEASE PRESS "ENTER" TO CONTINUE . . .
CA:12,70
A:
CH:
T:DOES THE PATIENT HAVE A SLEEP PROBLEM WHICH SHOULD BE TREATED WITH
T:A SEDATIVE-HYPNOTIC?  1. YES      2. NO       3. MAYBE
*Q5
CA:3
CE:3
A1:
R:*3Q5
WRITE:
M: 1, 2, 3,
TY:MAYBE IS THE CORRECT SELECTION
WAY:2
CHY:
TY:JUST AS THERE IS CONSIDERABLE VARIABILITY IN THE DEFINITION OF INSOMNIA
TY:SO TOO IS THERE A GREAT DEAL OF VARIABILITY IN THE REQUIREMENT FOR SLEEP.
TY:THE INFANT SPENDS A CONSIDERABLE AMOUNT OF HIS TIME SLEEPING. AS ONE
TY:GROWS OLDER THIS AMOUNT DECREASES AND LEVELS OFF AT ABOUT SEVEN TO NINE
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TY:HOURS OF SLEEP PER NIGHT UNTIL OLD AGE WHEN THE AMOUNT OF TIME NEEDED
TY:FOR SLEEP FALLS OFF TO ABOUT SIX HOURS PER NIGHT (NOTE: THESE ARE
TY:AVERAGE VALUES AND NORMAL DEVIATION IS TO BE EXPECTED).
TY:REASSURANCE OF THE HARMLESSNESS OF OCCASSIONALLY INTERRUPTED AND/OR
TY:SHORTENED SLEEP IS OFTEN ALL THAT IS NECESSARY.
JY:*CONT
T:YOUR RESPONSE IS NOT RECOGNIZABLE PLEASE TYPE 1, 2 OR 3
WA:2
J:*Q5
*CONT
CA:12,25
READ:
&
CA:12,25
CL:
T:PLEASE PRESS "ENTER" TO CONTINUE . . .
CA:12,70
A:
CH:
T: AFTER TALKING WITH G.R. IT WAS DETERMINED THAT A SEDATIVE-HYPNOTIC
T: WOULD BE PRESCRIBED TO HELP HER FALL ASLEEP.  WHICH ONE OF THE FOLLOWING?
T:      1. PENTOBARBITAL 100MG H.S.          4. CHLORAL HYDRATE 50MG H.S.
T:      2. FLURAZEPAM 100MG H.S.             5. SECOBARBITAL 200MG H.S.
T:      3. PHENOBARBITAL 30MG H.S.
*Q6
CA:6
CE:6
A1:
R:*3Q6
WRITE:
M: 2,
TY:NO FLURAZEPAM COULD BE USED IN THIS SITUATION BUT THE LISTED DOSE IS 3
TY:TIMES THE RECOMMENDED DOSE.    TRY AGAIN
WAY:3
JY:*Q6
M: 3,
TY:NO  PHENOBARBITAL IS A LONG ACTING SEDATIVE-HYPNOTIC WHICH IS USED FOR
TY:PATIENTS WHO FOR REASONS OF HEALTH, EXTERNAL DISTURBANCES OR PSYCHIC
TY:ABNORMALITIES AWAKE FREQUENTLY DURING THE NIGHT. HOWEVER, THE LONG
TY:DURATION OF ACTION MAY ALSO BE CORRELATED WITH SIGNIFICANT ADVERSE
TY:EFFECTS SUCH AS "HANGOVER" AND INCREASED DANGER WHEN OVERDOSED.
WAY:8
JY:*Q6
M:4,
TY:NO. CHLORAL HYDRATE COULD BE USED IN THIS SITUATION (I.E. RAPID ONSET AND
TY:SHORT DURATION) BUT THE DOSE GIVEN IS  ONLY ONE-TENTH OF THE RECOMMENDED
TY:500 MG DOSE.  TRY AGAIN.
WAY:5
JY:*Q6
M:5,
TY:NO. SECOBARBITAL IS IN THE RIGHT CLASS OF BARBITURATES (I.E. RAPID ONSET
TY:AND SHORT DURATION) BUT THE DOSE LISTED IS TWICE THE RECOMMENDED DOSE.
TY:TRY AGAIN
WAY:4
JY:*Q6
M:1
TY:RIGHT  PENTOBARBITAL IS A SHORT ACTING BARBITURATE EFFECTIVE AT THIS DOSE
TY:FOR THOSE PATIENTS WHO FIND IT DIFFICULT TO FALL ASLEEP.
JY:*CONT
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T:YOUR RESPONSE IS NOT RECOGNIZABLE - PLEASE TYPE 1 , 2, 3, 4 OR 5
WA:2
J:*Q6
*CONT
CA:12,25
READ:
&
CA:12,25
CL:
T:PLEASE PRESS "ENTER" TO CONTINUE . . .
CA:12,70
A:
CH:
T:WHICH OF THE FOLLOWING REACTIONS WOULD G.R. MOST LIKELY EXPERIENCE AFTER
T:TAKING A 100 MG DOSE OF PENTOBARBITAL?
T: 1. APNEA FOLLOWED BY CIRCULATORY COLLAPSE    4. CNS DEPRESSION OR SEDATION
T: 2. SKIN RASH OR JAUNDICE                     5. EXCITEMENT
T: 3. NAUSEA, VOMITING, DIARRHEA                6. NONE OF THE ABOVE
*Q7
CA:6
CE:6
A1:
R:*3Q7
WRITE:
M: 1 ,
TY:PROBABLY NOT, THESE ARE SIGNS OF BARBITURATE TOXICITY AND WOULD
TY:NORMALLY REQUIRE THE INGESTION OF 10 TO 15 TIMES THE NORMAL THERA-
TY:PEUTIC DOSE.   TRY AGAIN
WAY:5
JY:*Q7
M: 2 ,
TY:PROBABLY NOT, THESE ARE MANIFESTATIONS OF AN ALLERGIC REACTION TO
TY:THE BARBITURATES AND OCCUR ONLY RARELY - BUT SHOULD BE KEPT IN MIND
TY:IN CASE G.R. DEVELOPED A SKIN RASH OR JAUNDICE
WAY:5
JY:*Q7
M: 3 ,
TY:MAYBE  GI DISTURBANCES ARE SEEN TO SOME EXTENT AFTER THE ADMINISTRA-
TY:TION OF ANY CLASS OF DRUGS TO A LARGE PATIENT GROUP. HOWEVER, THERE IS
TY:A BETTER CHOICE.  TRY AGAIN.
WAY:5
JY:*Q7
M: 5 ,
TY:PROBABLY NOT, SOME PATIENTS (USUALLY ELDERLY OR YOUNG CHILDREN) MAY
TY:EXHIBIT AN EXCITEMENT REACTION TO ORDINARY DOSES OF THE BARBITURATES
TY:BUT G.R. FALLS INTO NEITHER OF THESE GROUPS. A EUPHORIC REACTION TO
TY:LOW DOSES OF THE BARBITURATES MAY BE MISTAKEN FOR EXCITEMENT BUT IS
TY:PRESUMABLY DUE TO THE DEPRESSION OF INHIBITORY INFLUENCES IN THE BRAIN.
WAY:9
JY:*Q7
M: 6 ,
TY:NO   TRY AGAIN
WAY:2
JY:*Q7
M: 4 ,
TY:RIGHT, THIS WOULD BE THE EXPECTED RESPONSE TO PENTOBARBITAL AT THIS
TY:DOSE.
WAY:2
JY:*CONT
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T:YOUR RESPONSE IS NOT RECOGNIZABLE - PLEASE TYPE 1 , 2 , 3 , 4 OR 5
WA:2
J:*Q7
*CONT
CA:12,25
READ:
&
CA:12,25
CL:
T:PLEASE PRESS "ENTER" TO CONTINUE . . .
CA:12,7C
A:
CH:
T:
T:OVER THE NEXT SEVERAL MONTHS G.R. DEVELOPS A PATTERN OF GETTING HER
T:PRESCRIPTIONS FOR PENTOBARBITAL MORE FREQUENTLY AND NOW WANTS A LARGER
T:QUANTITY "TO SAVE MONEY."
T:WHAT DO YOU THINK IS HAPPENING?
T:(PLEASE LIMIT YOUR RESPONSE TO ONE LINE AND PRESS "ENTER" WHEN THROUGH)
A:
R:*3Q8
WRITE:
CH:
T: OKAY THERE ARE MANY POSSIBILITIES, BUT THE MOST LIKELY ARE:
T: 1. OVERCOMPLYING EITHER DELIBERATELY ABUSING DRUG OR NON-DELIBERATELY
T:    DUE TO A MISINTERPRETATION OF DIRECTIONS OR A MISTYPED PRESCRIPTION
T:    DRUG LABEL.
T: 2. GIVING THE MEDICATION TO (OR "TRADING" WITH) A FAMILY MEMBER OR FRIEND.
T: 3. SELLING THE MEDICATIONS TO DRUG ABUSERS.
T: 4. DEVELOPMENT OF PSYCHOLOGICAL DEPENDENCE (I.E. HABITUATION).  THIS CAN
T:    OCCUR AFTER THE PROLONGED USE OF ANY BARBITURATE - EVEN WITH
T:    THERAPEUTIC DOSES.
T: 5. (PLEASE PRESS "ENTER" TO CONTINUE)
CA:12,
A:
CH:
T: 5. DEVELOPMENT OF PHYSICAL DEPENDENCE.  THE CHRONIC DAILY INGESTION OF 3
T:    TIMES THE USUAL THERAPEUTIC DOSE IS CAPABLE OF PRODUCING PHYSIOLOGIC
T:    ADDICTION.
T: 6. DEVELOPMENT OF TOLERANCE.  THE CHRONIC ADMINISTRATION OF BARBITURATES
T:    LEADS TO A STATE OF TOLERANCE WHICH MAY PARTLY BE EXPLAINED AS A CONSE-
T:    QUENCE OF THE INDUCTION OF THE MICROSOMAL ENZYME SYSTEMS IN THE LIVER
T:    WHICH ARE RESPONSIBLE FOR THE METABOLISM OF THE BARBITURATES.
T:    THIS IN TURN CAUSES: 1) A MORE RAPID DETOXIFICATION OF THE BARBITURATE
T:    AND  2) THE RESULTANT NEED TO TAKE LARGER DOSES TO GET THE SAME
T:    PHARMACOLOGICAL EFFECT AS BEFORE INDUCTION BEGAN.
CA:12,25
READ:
&
CA:12,25
CL:
T:PLEASE PRESS "ENTER" TO CONTINUE . . .
CA:12,7C
A:
CH:
T:
T:
T: IN ORDER TO DETERMINE WHICH (IF ANY) OF THE POSSIBILITIES PREVIOUSLY
T: LISTED IS OCCURING YOU DECIDE TO PHONE G.R. BEFORE SHE GETS ANOTHER
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T: PRESCRIPTION.
CA:12,25
CL:
T:PLEASE PRESS "ENTER" TO CONTINUE . . .
CA:12,70
A:
CH:
T:WHEN G.R ANSWERS THE PHONE YOU NOTICE THAT HER SPEECH IS SLOW AND SLURRED
T:(A FEATURE NOT NOTED IN THE PAST).  IN ADDITION SHE SEEMS TO BE HAVING
T:DIFFICULTY THINKING AND STARTS LAUGHING OR CRYING WITHOUT PROVOCATION.
T:WHEN YOU ARE FINALLY ABLE TO MAKE IT CLEAR TO HER WHY YOU CALLED HER
T:ATTITUDE BECOMES IRRITABLE AND HOSTILE AND SHE HANGS UP ON YOU.
T:
T:DO YOU THINK THAT G.R.'S ACTIONS COULD BE RELATED TO HER USE OF PENTO-
T:BARITAL? (PLEASE ANSWER YES OR NO)
*Q9
CA:9
CE:9
A:
R:*3Q9
WRITE:
M:N,
TY:YOU SHOULD REVIEW THE SIGNS AND SYMPTOMS OF MILD BARBITUTATE INTOXICATION
TY:THE DESCRIBED SYMPTOMS ARE THOSE OF MILD INTOXICATION WITH A SEDATIVE.
WAY:3
JY:*CONT
M:Y,
TY:RIGHT  THE SIGNS AND SYMPTOMS DESCRIBED ARE CONSISTENT WITH MILD INTOXICA-
TY:TION WITH BARBITURATES. (NOTE: THEY ALSO RESEMBLE ALCOHOL INTOXICATION)
JY:*CONT
T:YOUR RESPONSE IS NOT RECOGNIZABLE - PLEASE TYPE  YES OR NO
WA:2
J:*Q9
*CONT
CA:12,25
READ:
&
CA:12,25
CL:
T:PLEASE PRESS "ENTER" TO CONTINUE . . .
CA:12,70
A:
CH:
T:
T:
T: YOU SUMMARIZE THE TELEPHONE CONVERSATION AND ADD IT TO G.R.'S U.C. CHART
T: NOTING THAT SINCE YOU BELIEVE HER ACTIONS WERE DUE TO EITHER BARBITURATE OR
T: ALCOHOL INTOXICATION FURTHER WRITING OR FILLING OF PENTOBARBITAL
T: PRESCRIPTIONS FOR G.R. WOULD NOT BE ADVISABLE WITHOUT FURTHER INVESTIGATION
T: AND FOLLOW-UP.
CA:12,25
CL:
T:PLEASE PRESS "ENTER" TO CONTINUE  . . .
CA:12,70
A:
CH:
T:THE NEXT TIME YOU SEE G.R. IS WHEN A FRIEND BROUGHT HER TO U.C. EMERGENCY
T:ROOM.  PHYSICAL EXAMINATION REVEALS A STUPOROUS PATIENT WITH SLOW,
T:SHALLOW RESPIRATIONS, COLD CLAMMY SKIN AND PUPILS DILATED AND NON-REACTIVE
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T:TO LIGHT.  HISTORY OBTAINED FROM THE FRIEND REVEAL THAT G.R. HAS TAKEN
T:APPROXIMATELY 40 YELLOWS (PENTOBARBITAL 100MG CAPSULES) ABOUT ONE HOUR
T:AGO.
CA:12,25
READ:
&
CA:12,25
CL:
T: PLEASE PRESS "ENTER" TO CONTINUE . . .
CA:12,70
A:
CH:
T: WHICH OF THE FOLLOWING WOULD BE THE MOST APPROPRIATE TREATMENT FOR G.R.?
T:  1. DIMERCAPROL INJECTION 10% SOLUTION IN OIL GIVEN I.M. Q4H
T:  2. SECOBARBITAL 100 MG GIVEN Q.I.D.
T:  3. PHENOBARBITAL 1 1/2 GR PER KILOGRAM BODY WEIGHT T.I.D. FOR 2 DAYS
T:  4. SYRUP OF IPECCAC 30 ML P.O. STAT      6. ALL OF THE ABOVE
T:  5. AMPHETAMINE SULFATE 10 MG Q3H         7. NONE OF THE ABOVE
*Q10
CA:7
CE:7
A1:
R:*3Q1C
WRITE:
M: 1,
TY:NO   THIS IS AN ANTIDOTE FOR HEAVY METAL POISONINGS.    TRY AGAIN
WAY:2
JY:*Q1C
M:2,
TY:NO   THIS WOULD ONLY COMPOUND THE INTOXICATION.      TRY AGAIN
WAY:2
JY:*Q1C
M:3,
TY:NO   PHENOBARBITAL, EVEN AT REGULAR DOSES (15 TO 100 MG T.I.D.), WOULD
TY:GREATLY COMPOUND TOXICITY BECAUSE IT IS A LONG ACTING BARBITURATE AND
TY:WOULD ALMOST CERTAINLY KILL THE PATIENT AT THE DOSE LISTED. TRY AGAIN
WAY:5
JY:*Q1C
M:4,
TY:ABSOLUTELY NOT   THE DANGER OF ASPIRATION IS EXCEEDINGLY GREAT IN STUPOROUS
TY:AND COMATOSE PATIENTS. IF G.R. DID NOT ASPIRATE SWALLOWING THE IPECAC SHE
TY:CERTAINLY WOULD HAVE WHEN IT CAME BACK UP. IF YOU ARE WORRIED ABOUT ANY
TY:REMAINING UNABSORBED CAPSULES IN THE STOMACH USE ASPIRATION.  TRY AGAIN
WAY:9
JY:*Q1C
M:5,
TY:NO  ALTHOUGH C.N.S. STIMULANTS HAVE BEEN USED IN THE PAST THEY ARE NOT
TY:ANTIDOTES AND HAVE NO EFFECT IN DECREASING THE DURATION AND/OR SEVERITY
TY:OF THE BARITURATE OVERDOSAGE.     TRY AGAIN
WAY:6
JY:*Q1C
M:6,
TY:NO    NONE OF THE LISTED ITEMS WOULD BE APPROPRIATE
JY:*CONT
M:7,
CHY:
TY:RIGHT
JY:*CONT
T:YOUR RESPONSE IS NOT RECOGNIZABLE - PLEASE TYPE 1 , 2 , 3 , 4 , 5 , 6 OR 7
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WA:2
J:*Q10
*CONT
CA:12,25
READ:
&
CA:12,25
CL:
T:PLEASE PRESS "ENTER" TO CONTINUE . . .
CA:12,70
A:
CH:
T:
T:
T:THE CRITICAL FACTOR IN THE MANAGEMENT OF BARBITURATE POISONING IS
T:CONSTANT MEDICAL AND NURSING SUPERVISION AND INTERVENTION (I.E.
T:MAINTAINING AN ADEQUATE AIRWAY; ADMINISTRATION OF I.V. FLUIDS;
T:G.I. ASPIRATION; ADMINISTRATION OF OXYGEN; DIALYSIS; ETC. AS NEEDED)
T:IN ORDER TO MAINTAIN THE PHYSIOLOGIC RESPONSES UNTIL THE DANGER OF
T:RESPIRATORY FAILURE AND CIRCULATORY DEPRESSION HAS PASSED.
CA:12,25
CL:
T:PLEASE PRESS "ENTER" TO CONTINUE . . .
CA:12,70
A:
CH:
T:
T:
T:  G.R. RESPONDED TO FAVORABLY TO THERAPY AND RECOVERED WITHOUT INCIDENT.
T:  IN ORDER TO DETERMINE WHETHER THE CAUSE OF THE BARBITURATE POISONING
T:  WAS ACCIDENTAL OR DUE TO AN ATTEMPTED SUICIDE A PSYCHIATRIC CONSULTANT
T:  WAS CALLED IN WHO WILL NOW FOLLOW THE CASE.
CA:12,25
CL:
T:PLEASE PRESS "ENTER" TO CONTINUE . . .
CA:12,70
A:
CH:
T:
T:
T:
T:
T:                                    "THE END"
T:
T:
T:
T:
T:WE HOPE THAT YOU FOUND THIS PROGRAM TO BE ENJOYABLE AS WELL AS INFORMATIVE
T:
T:                                                                  LAP '76
WA:2
E:
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APPEND:
CH:
T:
T:                    PHARMACOLOGY 136 C.A.I.PROGRAM #4
T:
T:                              "PARKINSONISM"
T:
T:
T:
T:COPYRIGHT C 1976                    LAP                    ALL RIGHTS RESERVED
WA:3
R:PHARMACOLOGY 136 C.A.I.PROGRAM #4  "PARKINSONISM"
R:15 MINUTE PILOT DATAPOINT PROGRAM BY L.A. PAGLIARO, UCSF, C 1976
*Y/N
CH:
T:THIS IS A SHORT (FIFTEEN MINUTE) PROGRAM ON PARKINSONISM.
T:WOULD YOU LIKE TO GO THROUGH IT?
A1:
R:*4Y/N
WRITE:
M:N,
TY:THAT'S OKAY.  MAYBE SOME OTHER TIME . . .
WAY:3
EY:
M:Y,
JY:*CONT
T:YOUR ANSWER IS NOT RECOGNIZABLE - PLEASE TYPE YES OR NO
WA:3
J:*Y/N
*CONT
T:GOOD
WA:2
CH:
T:BEFORE WE BEGIN WILL YOU PLEASE IDENTIFY WHAT TYPE OF USER YOU ARE:
T: 1. 2ND YR MED STUDENT                6. 2ND YR PHARM STUDENT
T: 2. 3RD YR MED STUDENT                7. 3RD YR PHARM STUDENT
T: 3. 4TH YR MED STUDENT                8. 4TH YR PHARM STUDENT
T: 4. HOUSE STAFF MEMBER                9. FACULTY MEMBER
T: 5. NURSING STUDENT                   0. GRADUATE STUDENT
*USER
CA:7
CE:7
A1:
R:*4USER
WRITE:
M: 1 , 2 , 3 , 4 , 5 , 6 , 8 , 9 , 0,
TY:THANK YOU  -  NOW LET'S BEGIN
WAY:3
JY:*BEGIN
M: 7 , SEVEN,
CHY:
TY:PLEASE ENTER YOUR SOCIAL SECURITY NUMBER(S) "CODE" (IN ORDER TO MAINTAIN
TY:YOUR ANONYMITY) AND PRESS "ENTER" WHEN READY.
TY:IF YOU DO NOT REMEMBER THE CODE, HERE IS HOW IT IS DERIVED:
TY:EXAMPLE:     IF YOUR SOCIAL SECURITY NUMBER IS   545  47  9862
TY:             CROSS OUT                           54   4    8
TY:             AND ENTER                             5   7  9 62
A:
R:SOCIAL SECUTITY NUMBER CODE XX_ X_ _X__
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R:*4SS#
WRITE:
TY:THANK YOU - NOW LET'S BEGIN
WAY:3
JY:*BEGIN
T:YOUR ANSWER IS NOT RECOGNIZABLE - PLEASE TYPE 1 , 2 , 3 , 4 , 5 , 6 , 7 ,
T:8 , 9 OR 0.
WA:2
J:*USER
*BEGIN
CH:
T:
CA:2,10
T: P.S. YOU MAY WANT TO TAKE SOME NOTES DURING THIS EXERCISE
WA:3
CA:8,25
T: ONE MOMENT PLEASE - TAPE BEING READ
R:*4Y/N
R:*4USER
R:*4SS#
R:*4Q1
R:*4Q2
R:*4Q3
R:*4Q4
R:*4Q5
R:*4Q6
R:*4Q7
CA:12,25
READ:
&
CA:12,25
CL:
T: PLEASE PRESS "ENTER" TO BEGIN . . .
CA:12,70
A:
CH:
T: J.R. A 75 YEAR OLD WHITE MALE WITH A HISTORY OF "SENILE" DEPRESSION,
T: HYPERTENSION AND IDIOPATHIC PARKINSONISM HAS BEEN REFERRED TO U.C.
T: CLINICS FOR HIS FAILURE TO RESPOND TO LEVODOPA TREATMENT OF HIS
T: PARKINSONISM.
CA:12,25
CL:
T:PLEASE PRESS "ENTER" TO CONTINUE . . .
CA:12,70
A:
CH:
T:WHICH OF THE FOLLOWING SHOULD BE DONE FOR J.R.'S PARKINSONISM?
T: 1. INCREASE THE DOSE OF LEVODOPA
T: 2. DECREASE THE DOSE OF LEVODOPA
T: 3. KEEP THE DOSE OF LEVODOPA THE SAME AND ADD AMANTADINE
T: 4. KEEP THE DOSE OF LEVODOPA THE SAME AND ADD TRIHEXYLPHENIDYL
T: 5. DISCONTINUE LEVODOPA AND START AMANTADINE
T: 6. NONE OF THE ABOVE
*Q1
CA:8
CE:8
A1:
R:*4Q1
WRITE:
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M: 1 , 2 , 3 , 4 , 5,
TY:NO  YOU MAY HAVE A GOOD REASON FOR YOUR CHOICE BUT YOU HAVE OVERLOOKED
TY:SOMETHING "BASIC"   THINK ABOUT IT FOR A MINUTE . . .
WAY:7
JY:*Q2N
M:6,
TY:GOOD   BUT PLEASE BE MORE SPECIFIC . . .
WAY:2
JY:*Q2N
T:YOUR RESPONSE IS NOT RECOGNIZABLE - PLEASE TYPE 1, 2, 3, 4, 5 OR 6
WA:2
J:*Q1
*Q2N
CH:
T:WHICH OF THE FOLLOWING SHOULD BE DONE "PRIOR" TO CHANGING J.R.'S THERAPY?
T:  1. COMPLETE PHYSICAL          4. ALL OF THE ABOVE
T:  2. DRUG HISTORY               5. NONE OF THE ABOVE
T:  3. REVIEW OF MEDICAL HISTORY
*Q2
CA:5
CE:5
A1:
R:*4Q2
WRITE:
M: 1 , 2 , 3,
TY:YES, BUT YOU HAVE MISSED SOME  -  TRY AGAIN
WAY:2
JY:*Q2
M: 5,
TY:NO   YOU ARE EITHER DELIBERATELY ANSWERING WRONG OR ARE MAKING THINGS
TY:TOO COMPLICATED. PLEASE CHOOSE ANSWER 1, 2, 3 OR 4
WAY:3
JY:*Q2
M:4,
TY:RIGHT   ALL TOO OFTEN THERAPEUTIC DECISIONS ARE MADE PREMATURELY WITHOUT
TY:FIRST ESTABLISHING AN ADEQUATE DATA BASE. FAMILY HISTORY, MEDICATIONS
TY:NOW ON, CURRENT AND PAST MEDICAL HISTORY ARE ALL VARIABLES WHICH SHOULD
TY:BE CONSIDERED "PRIOR" TO MAKING A THERAPEUTIC DECISION.
JY:*Q3N
T:YOUR RESPONSE IS NOT RECOGNIZABLE - PLEASE TYPE 1, 2, 3, 4 OR 5
WA:2
J:*Q2
*Q3N
CA:12,25
READ:
&
CA:12,25
CL:
T:PLEASE PRESS "ENTER" TO CONTINUE . . .
CA:12,70
A:
CH:
T:FROM A "DATA COLLECTION" THE FOLLOWING HAS BEEN ASCERTAINED:
T:J.R. IS "CURRENTLY" RECEIVING: RESERPINE (0.25 MG PER DAY) FOR
T:HYPERTENSION; AMITRYPTYLINE (50 MG AT BEDTIME) FOR DEPRESSION;
T:AND LEVODOPA (3 GM PER DAY) FOR PARKINSONISM. HIS NON-PRESCRIPTION
T:MEDICATIONS INCLUDE "TUMS" AND "SUPER B WITH C VITAMIN CAPSULES"
T:BOTH OF WHICH HE TAKES DAILY  WITH MEALS.
T:ALL LABORATORY AND PHYSICAL EXAMINATIONS ARE  WITHIN NORMAL LIMITS
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T:EXCEPT FOR THE GROSS CLINICAL MANIFESTATIONS OF PARKINSONISM.
CA:12,25
READ:
&
CL:
T:PRESS "ENTER" TO CONTINUE . . .
CA:12,70
A:
CH:
T:BASED UPON THIS ADDITIONAL INFORMATION WHAT WOULD "NOW" BE MOST APPROPRIATE?
T:      1. INCREASE DOSE OF LEVODOPA
T:      2. DECREASE DOSE OF LEVODOPA
T:      3. NOT CHANGE DOSE OF LEVODOPA
T:      4. KEEP DOSE OF LEVODOPA THE SAME AND ADD AMANTADINE
T:      5. DISCONTINUE LEVODOPA AND USE AMANTADINE
T:      6. DISCONTINUE ALL MEDICATIONS
*Q3
CA:8
CE:8
A1:
R:*4Q3
WRITE:
M: 1 , 2 , 4 , 5 , 6,
TY:YOUR ACTION MAY BE APPROPRIATE - BUT NOT "NOW"    TRY AGAIN
WAY:2
JY:*Q3
M:3,
TY:RIGHT
WAY:1
JY:*Q4N
T: YOUR RESPONSE IS NOT RECOGNIZABLE - PLEASE TYPE 1 , 2 , 3 , 4 , 5 OR 6
WA:2
J:*Q3
*Q4N
CH:
T:BUT WHY SHOULD THE LEVODOPA THERAPY NOT BE CHANGED "NOW"?
T: 1. THE "SUPER B WITH C" CONTAINS PYRIDOXINE WHICH NEGATES LEVODOPA'S EFFECT
T: 2. RESERPINE MAY CAUSE A "PARKINSONISM LIKE SYNDROME"
T: 3. AMITRYPTYLINE MAY CAUSE A "PARKINSONISM LIKE SYNDROME"
T: 4. #1 & #3
T: 5. #2 & #3
T: 6. ALL OF THE ABOVE
T: 7. NONE OF THE ABOVE
*Q4
CA:9
CE:9
A1:
R:*4Q4
WRITE:
M: 7,
TY: NO   TRY AGAIN
WAY:2
JY:*Q4
M: 1 , 2 , 3 , 4 , 5,
TY: OKAY - BUT YOU HAVE MISSED SOME    TRY AGAIN
WAY:3
JY:*Q4
M:6,
CHY:
```

```
TY:
CAY:2
TY:RIGHT  ALL THE LISTED ITEMS WERE POSSIBLE REASONS FOR NOT CHANGING
TY:THE DOSE OF LEVODOPA AT THIS TIME.
JY:*CONT
T:YOUR RESPONSE IS NOT RECOGNIZABLE - PLEASE TYPE 1 , 2 , 3 , 4 , 5 , 6 OR 7
WA:2
J:*Q4
*CONT
CA:12,25
READ:
&
CA:12,25
CL:
T:PLEASE PRESS "ENTER" TO CONTINUE . . .
CA:12,7C
A:
CH:
TY:IN EVALUATING PARKINSONISM PATIENTS IT SHOULD BE REMEMBERED THAT TRICYCLIC
TY:ANTIDEPRESSANTS, PHENOTHIAZINES, BUTYROPHENONES, CARBAMATES, RESERPINE AND
TY:THIOTHIXENE ARE ALL CAPABLE OF PRODUCING A "PARKINSONISM LIKE SYNDROME"
TY:WHICH CAN OFTEN BE SUCCESSFULLY MANAGED BY MERELY REMOVING THE OFFENDING
TY:AGENT FROM THE PATIENTS THERAPEUTIC REGIMEN.
TY:PYRIDOXINE HYDROCHLORIDE (VITAMIN B-6) IN ORAL DOSES OF 10 TO 25 MG
TY:RAPIDLY REVERSES BOTH THE THERAPEUTIC AND TOXIC EFFECTS OF LEVODOPA.
TY:IT SHOULD BE NOTED THAT SEVERAL FOODS ARE HIGH IN PYRIDOXINE CONTENT:
TY:AVACADOS, BEANS, NUTS, OATMEAL, TUNA AND WHEAT GERM - TO NAME A FEW.
TY:IT IS THUS IMPORTANT THAT PATIENTS RECEIVING LEVODOPA BE INFORMED ON
TY:WHICH FOODS TO AVOID "AND WHY".

CA:12,25
READ:
&
CA:12,25
T:PRESS "ENTER" TO CONTINUE . . .
CA:12,7C
A:
CH:
T:WHAT INFORMATION HAS STILL BEEN OVERLOOKED?
T:   1. "TUMS" MAY HAVE CAUSED DECREASED ABSORPTION OF LEVODOPA
T:   2. PATIENT COMPLIANCE
T:   3. J.R.'S NATIONALITY (POSSIBLE HIGH RISK GROUP)
T:   4. RESERPINE MAY HAVE CAUSE A "FALSE POSITIVE" IN THE PARKINSONISM
T:      TEST IF DONE BY THE INDIRECT METHOD       6. ALL OF THE ABOVE
T:   5. COMBINATION OF THE ABOVE                  7. NONE OF THE ABOVE
*J5
CA:8
CE:8
A1:
R:*4Q5
WRITE:
M: 1,
TY:NO   THE ABSORPTION OF LEVODOPA OCCURS PRIMARILY IN THE SMALL INTESTINE
TY:AND ALKALINIZATION WOULD (IF ANYTHING) ENHANCE (NOT DECREASE) ABSORPTION
TY:TRY AGAIN
WAY:4
JY:*Q5
M: 3,
TY:NO   THERE ARE "NO" HIGH RISK NATIONALITY GROUPS     TRY AGAIN
```

```
WAY:2
JY:*Q5
M: 4,
TY:NO   THERE IS NO SUCH THING AS A PARKINSONISM TEST - DIRECT OR INDIRECT
TY:DIAGNOSIS IS MADE AND VARIFIED AND SUCCESS OR FAILURE OF TREATMENT IS
TY:MONITORED VIA DIRECT VISUAL ASSESSMENT OF GROSS MOTOR ACTIVITY. TRY AGAIN
WAY:5
JY:*Q5
M:5,
TY:NO   ONLY ONE ANSWER IS CORRECT
WAY:2
JY:*Q5
M:6,
TY:NO      TRY AGAIN.
WAY:2
JY:*Q5
M:7,
TY:NO   BUT YOU ARE CLOSE - ONLY ONE ANSWER IS CORRECT.  TRY AGAIN.
WAY:2
JY:*Q5
M:2
CHY:
TY:RIGHT  PATIENT COMPLIANCE ALTHOUGH OFTEN OVERLOOKED IS A MAJOR FACTOR IN
TY:THE SUCCESS OR FAILURE OF ANY THERAPEUTIC PROCEDURE IN WHICH THE PATIENT
TY:MUST TAKE HIS OWN MEDICATION OR IN SOME OTHER WAY MUST "COMPLY" WITH A
TY:PRESCRIBED REGIMEN (I.E. DIET, RELAXATION, EXERCISE).
TY:IT SHOULD HAVE BEEN IMMEDIATELY APPARENT THAT J.R.'S THERAPY "MAY" NOT
TY:BE WORKING BECAUSE OF A PROBLEM IN COMPLIANCE. J.R. IS AN ESPECIALLY
TY:GOOD CANDIDATE FOR "NON-COMPLIANCE" BECAUSE: HE IS OLD AND LIKELY TO
TY:FORGET; AND BECAUSE LEVODOPA HAS SEVERAL UNPLEASANT MINOR SIDE EFFECTS -
TY:DRY MOUTH, NAUSEA AND HEADACHE WHICH MIGHT SERVE AS DETERRENTS TO
TY:PATIENT COMPLIANCE.
JY:*Q6N
T:YOUR RESPONSE IS NOT RECOGNIZABLE - PLEASE TYPE 1, 2, 3, 4, 5, 6 OR 7
WA:2
J:*Q5
*Q6N
CA:12,25
READ:
&
CA:12,25
CL:
T:PLEASE PRESS "ENTER" TO CONTINUE . . .
CA:12,70
A:
CH:
T:WHILE INTERVIEWING J.R. AGAIN IT IS ASCERTAINED THAT HE "SOMETIMES FORGETS"
T:TO TAKE HIS MEDICATION. WHAT WOULD YOU DO ABOUT THIS COMPLIANCE PROBLEM?
T:(PLEASE LIMIT YOUR RESPONSE TO ONE LINE AND PRESS ENTER WHEN THROUGH)
T:_____________________________________________________________________
*Q6
CA:4
A:
R:*4Q6
WRITE:
CH:
T: OKAY, THERE ARE SEVERAL WAYS IN WHICH THIS PROBLEM COULD BE HANDLED -
T: THREE OF THE EASIEST ARE: 1) STRESS IMPORTANCE OF COMPLIANCE WITH J.R.
T: AND THEN DEVISE A "CALENDAR DOSE SHEET" WHICH SHOULD BE PUT IN A
```

```
T: PROMINENT PLACE (I.E. BREAKFAST TABLE) AND WHICH J.R. WOULD CHECK OFF
T: EACH TIME HE TOOK HIS DOSE OF MEDICINE; 2) HAVE A RELATIVE (I.E. WIFE)
T: GIVE J.R. HIS MEDICATION; 3) HAVE A PUBLIC HEALTH NURSE ADMINISTER THE
T: MEDICATION.
CA:12,25
READ:
&
CA:12,25
CL:
T:PLEASE PRESS "ENTER" TO CONTINUE . . .
CA:12,70
A:
CH:
T:                                  "UPDATE"
T:DUE TO RESERPINE'S "POSSIBLE" IMPLICATION IN TWO OF J.R.'S PROBLEMS:
T:PARKINSONISM AND DEPRESSION; J.R.'S HYPERTENSION WAS RE-EVALUATED AND
T:IT WAS DECIDED TO DISCONTINUE RESERPINE. ABOUT ONE MONTH LATER HIS
T:DEPRESSION SEEMED TO LESSEN AND AMITRYPTYLINE WAS LIKEWISE DISCONTINUED.
T:IN ADDITION A THERAPEUTIC VITAMIN COMBINATION WHICH DOES NOT CONTAIN
T:PYRIDOXINE WAS SUBSTITUTED FOR THE SUPER B WITH C VITAMIN.
T:THE ONLY MEDICATION J.R. IS CURRENTLY RECEIVING IS LEVODOPA (3 GM PER DAY)
T:WHICH IS ADMINISTERED BY J.R.'S WIFE USING A "DOSING CALENDAR CHART".
T:LABORATORY AND PHYSICAL EXAMINATIONS ARE WITHIN NORMAL LIMITS EXCEPT FOR
T:THE PERSISTENT SYMPTOMS OF PARKINSONISM.
CA:12,25
READ:
&
CA:12,25
CL:
T:PLEASE PRESS "ENTER" TO CONTINUE . . .
CA:12,70
A:
CH:
T:NOW TO RETURN TO OUR ORIGINAL QUESTION
T:WHAT WOULD YOU RECOMMEND?
T:  1. INCREASE THE DOSE OF LEVODOPA
T:  2. KEEP THE DOSE OF LEVODOPA THE SAME AND ADD AMANTADINE
T:  3. KEEP THE DOSE OF LEVODOPA THE SAME AND ADD TRIHEXYLPHENIDYL
T:  4. DISCONTINUE LEVODOPA AND START AMANTADINE
*Q7
CA:7
CE:7
A1:
R:*4Q7
WRITE:
M: 1 , 2 , 3 , 4,
CHY:
TY:ALL THE ABOVE CHOICES ARE "CORRECT" IF PROPERLY EXECUTED AND "MAY" OR
TY:"MAY NOT" HELP IMPROVE J.R.'S CONDITION. THE CHOICE WOULD DEPEND
TY:UPON WHO WAS TREATING J.R. AND HIS (THE CLINICIAN'S) PAST EXPERIENCE
TY:WITH THE MEDICATIONS IN QUESTION.
WAY:10
JY:*NEXT
T:YOUR RESPONSE IS NOT RECOGNIZABLE - PLEASE TYPE 1 , 2 , 3 OR 4
WA:2
J:*Q7
*NEXT
CH:
T:ANTIHISTAMINES, ANTICHOLINERGICS, AMANTADINE AND LEVODOPA EITHER ALONE
```

```
T:OR IN COMBINATION HAVE BEEN USED TO TREAT PARKINSONISM. THE MOST IMPOR-
T:TANT FACTOR IN ACHIEVING "SUCCESSFUL" THERAPY IS THE SLOW AND CAREFUL
T:TITRATION OF DOSAGE TO EACH "INDIVIDUAL" PATIENTS NEEDS NOTING SIDE-
T:EFFECTS AND/OR TOLERANCE AND ADJUSTING THE REGIMEN ACCORDINGLY.
T:THE CLINICIAN "MUST" REMEMBER, HOWEVER, THAT PARKINSONISM IS A SLOW,
T:PROGRESSIVE DISEASE AND THAT ALTHOUGH DRUGS MAY RELIEVE MANY OF THE
T:SYMPTOMS THEY DO NOT ALTER THE ULTIMATE PROGRESSION OF THE DISEASE.
CA:12,25
READ:
&
CA:12,25
CL:
T:PLEASE PRESS "ENTER" TO CONTINUE . . .
CA:12,7C
A:
CH:
T:
T:
T:
T:
T:                                "THE END"
T:
T:
T:
T:
T:WE HOPE YOU FOUND THIS CASE TO BE INTERESTING AS WELL AS INFORMATIVE
T:
T:                                                                LAP 1976
WA:4
E:
```

Appendix B. Raw data from paired pre- and post-test questionnaires.

The first line of each of the following tables identifies the post-test group (1, 2 or 3) and the relationship measured (A = future pharmacy practice; B = overall pharmacy education; and C = course pharmacology 136). The second line is an identification code for the eighty vertical columns. The first 5 columns consist of the subjects' social security number code. Column 6 (S) identifies the subjects post-test group (1,2,3). Column 7 (E) identifies the number of computer case history exercises the subject has completed (0,1,2,3,4). Column 8 (A) identifies categories A, B and C (i.e. 1,2,3). Columns 9 through 44 identify the numerical rating (i.e. 1,2,3,4,5) given in order for items 1 through 36 on the pre-test questionnaire. Columns 45 through 80 identify the numerical ratings given in order for items 1 through 36 on the post-test questionnaire. Lines 3 and on contain the actual data with each line representing a single subject who has completed both pre- and post-test questionnaires

PRE TEST - POST TEST 1A

```
ID    SEA12345678901234567890123456789012345612345678901234567890123456789012345678901234567890123456
76235101551555515532355335555555543451155555252522223332435535444335435543225543
92801111553535555452254555451554455545345555553535455552453554452454455535335555
84480121555555345425555555555555555555555555535344454444225545455355553353433555
74075121441435554344254434444 444454341234444314244323412544444422544454333113444
06516121455554555532255335555555545553555555353535333533255344553555535552455555
64182111533554455555555555555555555555554551555235555555555554355555555555555255555
0675910154 3144455443444444524554444444333444425343443433444445544554554555255155
86108121521315533452354342452254445544133555535325443352254242452354455534433555
94491101553535355434555434552555543554155444551 4555  2  5 55555  55 5455  55555
12874111544535445542544544534444435533445555533344335455445445444544445445443444455
32452101353433434452254452442454454334543355311335534452354551331354335445131155
64884101533435455442355555555555553331453335554 434435442244534543553425433333355
64280121553555454543455555554455555555445555555455554553455555555555554455445555555
81598101331543544552255454543355454545445455543544422441355354543455454451535455
06517101352535  53 5545445424445 444235345434242444454345 5544 523554 5 5224 455

30009101551445153544255543535555454543555554414443444341554345444554334445344555
38460121551435554433355523554555553553255455551555455543454555544455453535 3144455
```

PRE TEST - POST TEST 18

```
ID    SEA12345678901234o78901234567890123456123456789012345678901234567890123456
76235102531553535325555425535555533353155555225532223232454131432255413343434254
92801112555533555432253223451354453545545355545533355552453453352454455425534555
8448)122555553435325555555555555545555555555354444543342255454553555535353444555
74075122534433554344444343444 444454341234444334322324413544544422544452344233 55
0651612245555454    3552255555555355355545535353333533255444554555545553555555
64182112523553455555555555555555555555554551555235555555535554355555555555555455355
0675910245 413445544444444452455444444433344444542554343344344544554445544554254155
86108122524433434452355453553555555535545345543444555445235545355355555533555534 55

9449110255354535532455553455355555445245455555 4444  3  5 54444  44 4244  44444

12874112453434455433435534453444443553344544553333333543344544453344454544344455

32452102353333434452254452442454444334543355311333433252353351331354333445441155
64884102533433435442355555545555553331453335554 434435443445534543553425434533355
64280122454444444443454344444544444 444445444454444445335443344445445314444445 5
81598102442532524553355553554355434345545455443544522251244344543355444441555255
0651710234253 5  53 2542 45424443 433235335433242344344435323 423554 5 4335 455
30009102441442433553255543535555545454355555441443444341554345444554334445444 55
38460122444443343344355533554555553553455355444443333333244223432344343  4334255
```

PRE TEST - POST TEST 1C

```
ID    SEA12345678901234567890123456789012345612345678901234567890123456789012345678901234567890123456
76235103315551353141155142525555513152555555413441322122434121411125411242552142
92801113423551525131253121431555522543555355433351523551354132441555432352555555
84480123245551425235355353553555535555555552554445422411552525525555252514445555
74075123214451554111234111422 3441413144114433555154121114421252124552515155424 5
06516123 5555 54    3552255555555355545     334545 5  43255344554555533353555455
64182113513552333553455455555555555555555515552355555555555131555555551155552155

0675910342 5445455445553435545555333445443554345525543322542445345554432535531555
86108123121551 4415145545155255554112255345553524253222225 2425525555522525444555
944911C3534453254313444222434444432243343133552 3212  1  4 11132  33 1113 133133
12874113335543534224454422554555524444555444335242322332244332542544434343445455
32452103354553434242254452442454534334543355411331333232353351331354333133441155
64884103533452424244455535525555533114533155524 4424252444452255335545252325433 55
64280123445553555453455345545555533 4555455335553545444445124545555512151554455
81598103245533513352355452552355425234545455333521511251155333533355424441555244
06517103244544  4  53 2542 45415455 22444543542234323423442 5242 313555 4 4255 255
30009103231551113112155111525555513151354155431442423212155111533455422452554255
38463123344553333344355333554555553553555255345542333233254123432354432  3534155
```

PRE TEST - POST TEST 2A

```
ID   SEA12345678901234567890123456789012345612345678901234567890123456789012345678901234567890123456
1059620133122424235114455443534433255513413452 1 3555455344 53554445444 54 223145
6234820155535554345325555555555533444443555544333455224134454 352235222553315543
7491524155153555455145555355335554355524455555242554434235455555435545555524455 5
1018022144534452243235534545555434454343455553232555455225555555555553435543535 45
1654020145355555555555555555555555455515555545333554553354554454454355534245455
8497021155144544454235544454444555 4543234454452345443351354554553354454544244555
6606520151 152555255 33554454155552 334252 33452533432434234433442254334433334433
0083624152334522341335432534555431242432355553 14 44234223534123353534315321121 54
1235922155244554443245455555555544554454355555454555533523555555555553454432345 55
4465320145155354441345525255155553245225555555155443544355555455355555455415555 5
5217724115153454554135554155125 55  453 34555152443223343355443 42255544453335555

4836420155535553245115555555555555545554555555555555555534555555555555555555555555
8444220155443555555445555555555555555555555555455355544534555555544555454444355545
```

PRE TEST - POST TEST 2B

ID SEA12345678901234567890123456789012345612345678901234567890123456789012345678901234567890123456

1059620244144345452545512555535524544425514541 1 314 342223 344 3344333 44 323133

623482025353555432521555555555555344444353554334435533411555 4 545555554555434155

749152424545254445533355454553355443443434555524253445434545555544554555555544555

101802225453343223422452554553544435433343455423355555523555355555555443554454455

165402023555555555554555555555555545515555554554445555544545544544544545545545455

849702124444334434523555535533555 4344444354433342433342254333543354453444443255

660652023 254455445 24553454255553 334252 33243423433343234343432333333334333333

008362425244352345253542152555534114334255554414 44234223534123353533315321121 54

123592225454455343323444455455544553454344553354335334235552244535533534553435 5

446532024445525453334552525535555543434533444535523352435554435525555544544554 55

521772422535345355433553415512555 352 34555152433224343355343 32255544453335555

486342025553555332423555555555555545554555555555555555534555555555555555555555555

844422024243235544533555555555555545555553555355354455445445554554445554554554445

PRE TEST - POST TEST 2C

```
ID   SEA12345678901234567890123456789012345612345678901234567890123456789012345678901234567890123456
10596203224332313411134113315244125332544123311 313 542412 114 1234331 43 423123
62348203225521424151155142542355223123523245123321324131254l2 242245213222454134
74915243234533434351155251553355543154544455343433344421254354544455455345544355

10180223545333424342     5 553544425333343555244355532525553535555555322542532 45

16540203255553535555255353553555555353555455545554545455255555553555543452555355

84970213224542542231255123533355 5 3252553255334551434234355235544455552254554155
660652031 453155314 42552253355553 342452 331235434341311351345134355313413521 22
00836243555555545555354155255555511335525155245 4 1444144555555544455545553212154
12359223535445523232254345535554455245434355425442523232355544435455343344534355
44653203335552535132355141542555544343453344454552335122555152552555553452455455
52177243143534524311355121531255 5 252 32455132433224333355133 42255544453534555
48634203555355531121155155555555513253555155455555555353455555555555555555555455
84442203413342554332255123544545542324514335525554555242255424535555534233553235
```

PRE TEST - POST TEST 3A

```
ID   SEA12345678901234567890123456789012345612345678901234567890123456789012345678901234567890123456
30654321551555533555555555555555555555545555555335555554455553555555555555555455555
78568321553555554554555555555555554555355555554555555554455555555555555533512455555
72502321553555535535455555554555554552155555555555554555255555555545555555551155555
58481311351435333522455525553255414552123555551555555552225555555345555555315555 5
36753 3C1555555555554355553555555555555555555544444444444433444444444444444444444444
44605 3C1443335333553554355434454444543333355454545454554355455555554543544445555
18218331553535555553355555555333555555555454455552535355552355455553355545555335555
72191341551555355141155555555555555355515555552555555555555555555555555555555555555
96269301152225453431453435242254555533311555551425554441354554342355355542324555
98691341555555555555355555555555554545544355535455345423544444544544555355455555
84877321453535554443254353443355443444334355442434542342253442442244244443234344

78125341551525534355355353552255544553545555351535443352455453553355453553345555
8694134155133544 34335545455335455 5553 44554425454454533 54 555543555455555345354
64183301431433345544553523454454 4 5444244344343443343543454544453354445544434455
72947 3C135355243344135444433235333343433344435 42443344214344433424534454234424 4
42291321335555 5 5  5455545553255555335455155 52 535454453555555533555555455551 55
```

PRE TEST - POST TEST 38

```
ID   SEA12345678901234567890123456789012345612345678901234567890123456789012345678901234567890123456
3D654322551555533553555555555555555555545555555355555554445553555555554555545555
7856832255355555545555555555555555545554555555355544544335535555555554445235555
7250232255455555553545555555555555555553555555555554555255555555545555555115555
5848131235343233335335543355235552543445545555155555553455555555555554445445535
5
3657330255555555554355555355555555555555554444444444433444444444444444444444444
4460530233344433355335435545555553444454535544344444145115535555445443333345455
1821833255155555555545555554335554555545445555253535555235555555335554554553354
7219134255155545514215535555555555355515555555255555555555555555555555555555555
9626930232511333421125331315115453553333324432532543333334433343245544452152224
4
9889134253555555555545555555555555454554535555344553454235434445445445553554555
5
8487732245353555444325435344335554344443435545243454335 21423 3442244233344434344
4

7812534253152333435535533343224544444354434431533333342444444443344453544345454
8
8694134245133444 35335545355225455 5553 445544254544545335 4 555543555455553453544
6
6418330222343334554445352345335445 5445444344443444343543454544453354435544434455
7
7294730235344434354235444333245334343434345443 224332242144343232244144432514244
4
4229132233555 5 5  5455545553255555335455155435 535454453555555553355555554555515555
```

PRE TEST - POST TEST 3C

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ID    SEA12345678901234567890123456789012345612345678901234567890123456789012345678901234567890123456
3J654323333531333353355353553555535353453355445555555533355534553555543453555455
78568323333553535334355353555555534333553434433553435333245333555545535353554534
72502323555554525555255345553555533255555155335553535224555125532255522453255155
58481313135511115111155111531155331115443333511551535314355215535555511111551255
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84877323433522423222254222432245442444234255432432534444353 2 4533354332243443255
78125343325523534355355333354225544544354435543554 554333334245543344335544444554545454
88941343134444123 22225525355225455 5555 3 55333543445344355 4555335553455444535 4
64183303233533333544415352345335445 434544324423444242433425424343334443334354424 5
72947303113333325123155111531555513151551445324 442434222455112424535521254552255
42291323315551515215355145553255555135455455115 5313353123552145513555551355551555
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Appendix C. Pre- and post-test questionnaire mean scores.

Table C1. Items which relate to pharmacology 136 course

Table C2. Items #6 and #26

Table C3. Items not related to pharmacology 136 course

Table C1. Items Related To Pharmacology 136

	Overall		1		2		3	
	pre-	post-	pre-	post-	pre-	post-	pre-	post-
1 A	4.3	4.3	4.5	4.2	4.3	4.4	4.2	4.4
B	4.2	4.0	4.4	3.9	4.1	3.8	4.1	4.3
C	3.0	3.4	2.9 *	3.6	3.0	3.2	3.1	3.3
3 A	2.5	2.4	2.4	2.2	2.5	2.6	2.6	2.3
B	3.3	2.8	3.1	3.1	3.9 *	3.1	2.9	2.4
C	3.9	3.3	3.6	3.4	4.4	3.8	3.9 *	2.9
4 A	4.3	4.2	4.5	4.1	3.9	3.7	4.4	4.7
B	4.3	4.1	4.4	4.1	4.1	3.8	4.4	4.4
C	4.6	4.2	4.8 *	3.8	4.3	4.1	4.8	4.7
5 A	3.7	3.5	3.5	3.4	3.8	3.2	3.9	3.8
B	3.7	3.5	3.6	3.5	3.7	3.2	3.9	3.8
C	4.1	3.9	4.7 *	4.0	3.8	3.6	3.8	4.1
7 A	4.3	4.3	4.2	4.0	4.5	4.5	4.3	4.4
B	4.2	4.0	4.2	3.8	4.4	4.2	4.1	4.1
c	4.0	4.0	3.7	3.8	4.6 *	3.9	3.8	4.3

Table C1. (cont.)

		Overall		1		2		3	
		pre-	post-	pre-	post-	pre-	post-	pre-	post-
8	A	3.9	4.0	4.0	3.7	3.9	4.1	3.8	4.3
	B	3.8	3.7	3.6	3.6	3.8	3.5	3.9	4.1
	C	2.9	3.3	3.1	3.1	3.0	3.2	2.6 *	3.4
9	A	3.9	3.7	4.2	3.6	3.5	3.5	3.9	4.1
	B	3.9	3.7	3.9	3.3	3.8	3.8	4.0	3.9
	C	3.7	3.7	3.5 *	2.5	3.6	4.2	4.0	4.4
14	A	4.9	4.7	4.9	4.4	4.8	4.7	5.0	4.9
	B	4.8	4.6	4.8	4.4	4.6	4.7	5.0	4.7
	C	4.7	4.6	4.8	4.3	4.2	4.6	5.0	4.8
15	A	4.6	4.2	4.6	4.2	4.8 *	4.1	4.6	4.4
	B	4.7	4.2	4.6	4.1	4.8	4.2	4.6	4.4
	C	4.6	4.3	4.6	3.9	4.4	4.5	4.7	4.6
18	A	4.2	4.1	4.1	4.0	4.1	3.8	4.4	4.4
	B	4.0	3.7	3.8	3.4	4.2	3.4	4.0	4.4
	C	3.8	3.3	2.8	2.4	3.0	3.7	3.3 *	4.1

Table C1. (cont.)

	Overall		1		2		3	
	pre-	post-	pre-	post-	pre-	post-	pre-	post-
19 A	4.6	4.3	4.6	4.3	4.7	4.2	4.5	4.5
B	4.5	4.2	4.6	4.1	4.6	3.8	4.4	4.4
C	4.6	4.3	4.8	4.3	4.2	3.9	4.8	4.8
21 A	3.6	3.5	3.5	3.0	3.8	3.6	3.6	3.7
B	3.7	3.7	3.6 *	2.8	4.2	3.8	3.5	3.7
C	3.4	3.1	3.5 *	2.4	3.5	3.5	3.1	3.6
22 A	4.0	3.7	3.1	3.7	4.4 *	3.6	3.6	3.6
B	4.0	3.7	4.2	3.5	4.2	3.8	3.6	3.7
C	4.0	3.9	4.5	3.8	4.0	4.0	3.5	4.1
23 A	4.9	4.8	4.8	4.8	4.9	4.8	5.0	4.8
B	4.9	4.8	4.8	4.8	4.8	4.8	4.9	4.8
C	4.8	4.6	4.8	4.6	4.8	4.7	4.9	4.6
24 A	4.7	4.6	4.6	4.6	4.7	4.5	4.6	4.7
B	4.7	4.5	4.6	4.5	4.7	4.4	4.7	4.6
C	4.8	4.7	4.8	4.6	4.8	4.8	4.9	4.7

Table C1. (cont.)

		Overall		1		2		3	
		pre-	post-	pre-	post-	pre-	post-	pre-	post-
25	A	4.5	4.0	4.6 *	3.9	4.3	3.8	4.6	4.3
	B	4.6	4.0	4.5	3.9	4.5	4.1	4.8 *	4.2
	C	4.6	4.4	4.8 *	4.2	4.3	4.4	4.7	4.6
27	A	3.8	4.2	4.2	4.5	3.0	3.6	3.9	4.4
	B	3.8	3.9	4.1	3.9	3.2	3.5	4.1	4.3
	C	3.3	2.9	3.4	2.9	2.8	3.1	3.5	2.8
29	A	4.3	4.2	4.2	4.0	4.3	4.2	4.4	4.4
	B	4.1	4.1	3.9	3.8	4.2	4.4	4.2	4.1
	C	3.8	4.2	3.6	4.1	3.8	4.2	3.9	4.1
31	A	3.0	2.9	3.2	2.8	2.6	2.5	3.7	3.3
	B	3.7	3.8	3.8	3.8	3.4	3.9	3.8	3.8
	C	4.5	4.5	4.6	4.6	4.3	4.2	4.4	4.6
33	A	4.2	4.2	4.2	3.7	4.2	4.2	4.1 *	4.7
	B	4.2	4.0	4.1 *	3.6	4.2	3.9	4.4	4.6
	C	3.8	3.7	3.8	3.4	3.7	3.7	3.9	4.1

Table C1. (cont.)

		Overall		1		2		3	
		pre-	post-	pre-	post-	pre-	post-	pre-	post-
32	A	3.9	3.6	4.2 *	3.6	3.8	3.5	3.7	3.8
	B	4.2	3.8	4.3	4.0	4.0	3.6	4.1	3.6
	C	4.1	4.4	4.3	4.5	3.6	4.1	4.2	4.5
35	A	4.8	4.8	4.8	4.9	4.7	4.5	4.9	4.8
	B	4.7	4.8	4.8	4.9	4.6	4.6	4.8	4.8
	C	4.4	4.5	4.5	4.7	4.3	4.2	4.3	4.7
36	A	4.8	4.7	4.8	4.8	4.7	4.6	4.9	4.8
	B	4.7	4.7	4.7	4.9	4.7	4.6	4.8	4.6
	C	4.6	4.6	4.4	4.6	4.6	4.5	4.7	4.7

Table C2. Items #6 and #26

		Overall		1		2		3	
		pre-	post-	pre-	post-	pre-	post-	pre-	post-
6	A	4.4	4.5	4.3	4.4	4.6	4.5	4.4	4.7
	B	3.6	3.8	3.0	3.5	4.1 *	3.4	3.9	4.6
	C	2.5	2.5	1.9	2.2	2.9	2.7	2.7	2.8
26	A	3.8	4.2	4.1	3.8	3.1	4.1	4.1	4.6
	B	3.8	3.9	3.8	3.6	3.4	4.2	4.0	4.1
	C	2.8	3.0	2.6	2.5	2.7	3.6	3.3	3.1

Table C3. Items Not Related To Pharmacology 136 Course

		Overall		1		2		3	
		pre-	post-	pre-	post-	pre-	post	pre-	post-
2	A	4.4	4.3	4.3	4.1	4.2	4.2	4.7	4.6
	B	4.0	3.8	4.1	3.6	3.6	3.8	4.1	4.0
	C	3.0	2.9	3.0	2.9	3.0	3.0	3.0	2.8
10	A	4.3	4.1	4.5	3.9	4.4	3.8	3.9	4.4
	B	3.8	3.8	3.8	3.5	3.8	3.8	3.8	4.1
	C	2.6	2.7	2.4	2.4	2.6	2.3	2.8	3.3
11	A	3.9	4.3	3.9	4.0	3.9	4.3	3.9	4.6
	B	3.8	4.1	3.5	4.1	4.0	4.0	4.1	4.1
	C	3.3	3.2	3.2	3.2	3.4	3.4	3.3	2.9
12	A	2.8	2.6	2.8	2.5	2.2	2.5	3.4	2.8
	B	3.2	2.6	3.0	2.4	2.8	2.6	3.6	2.7
	C	2.4	2.6	2.4	2.3	1.8 *	2.6	3.0	2.8
13	A	3.3	3.2	3.3	2.9	3.1	3.2	3.5	3.4
	B	3.3	3.0	3.5	2.8	2.9	3.1	3.3	3.3
	C	2.4	2.8	3.0	2.3	1.9	2.9	2.2	3.2
16	A	4.4	4.4	4.4	4.3	4.4	4.8	4.4	4.3
	B	4.0	3.9	4.0	3.6	3.8	4.2	4.2	3.8
	C	2.3	2.3	2.8 *	1.8	1.6	2.8	2.4	2.3

Table C3. (cont.)

		Overall		1		2		3	
		pre-	post-	pre-	post-	pre-	post-	pre-	post-
17	A	4.3	4.3	4.1	4.2	4.5	4.2	4.4	4.6
	B	3.9	3.9	3.6	3.8	4.1	3.7	4.2	4.1
	C	3.3	3.0	3.1	2.9	3.2	3.7	3.6 *	2.5
20	A	4.6	4.6	4.6	4.5	4.6	4.6	4.6	4.7
	B	4.6	4.3	4.5	4.2	4.8 *	4.1	4.6	4.6
	C	4.1	3.7	3.9	3.4	3.8	3.7	4.4	3.9
28	A	4.5	4.6	4.5	4.3	4.5	4.7	4.7	4.9
	B	4.1	4.0	4.0	3.3	3.8 *	4.4	4.5	4.4
	C	2.8	2.7	2.8	1.9	2.5	3.3	3.1	3.1
30	A	4.0	3.5	3.8	3.3	4.1	3.4	4.1	3.8
	B	4.0	3.8	3.8	3.6	3.6	3.8	4.5 *	3.9
	C	3.5	2.6	3.4	2.1	3.2	2.9	4.1 *	2.9
34	A	4.1	4.1	4.1	4.0	4.2	4.2	4.1	4.2
	B	3.6	3.4	3.8	3.3	3.4	3.2	3.7	3.7
	C	2.6	2.6	2.6	2.5	2.4	2.4	2.8	2.9

Appendix D. Post-test letters; course evaluation form.

SAN FRANCISCO: SCHOOL OF MEDICINE
DEPARTMENT OF PHARMACOLOGY

October 21, 1976

TO: The Third Year Pharmacy Students

FROM: Dr. A. Burkhalter

Will you please take the time to complete the attached questionnaire as you did on the first day of class? Write in your social security code number, but do not sign your name. When you are through, please insert both the questionnaire and this memo in the stamped self-addressed envelope and mail it to me.

Your cooperation in this project is deeply appreciated. Thank you for your help.

P.S. Have you gone through the Narcotics Case History in SIMA?_____

Have you gone through the Gout Case History in SIMA?_____

enclosures

AB:ce

SAN FRANCISCO: SCHOOL OF MEDICINE
DEPARTMENT OF PHARMACOLOGY

November 19, 1976

TO: The Third Year Pharmacy Students

FROM: Dr. A. Burkhalter

Will you please take the time to complete the attached questionnaire as you did on the first day of class? Write in your social security code number, but do not sign your name. When you are through, please insert both the questionnaire and this memo in the stamped self-addressed envelope and mail it to me.

Your cooperation in this project is deeply appreciated. Thank you for your help.

P.S. Have you gone through the Narcotics Case History in SIMA?_____

Have you gone through the Gout Case History in SIMA?_____

Have you gone through the Parkinsonism Case History in SIMA?_____

Have you gone through the Sedative-Hypnotics Case History in SIMA?_____

enclosures

AB:lmt

SAN FRANCISCO SCHOOL OF MEDICINE
DEPARTMENT OF PHARMACOLOGY

December 3, 1976

TO: The Third Year Pharmacy Students

FROM: Dr. A. Burkhalter

Will you please take the time to complete the attached questionnaire as you did on the first day of class? Write in your social security code number, but do not sign your name. When you are through, please insert both the questionnaire and this memo in the stamped self-addressed envelope and mail it to me.

Your cooperation in this project is deeply appreciated. Thank you for your help.

P.S. Have you gone through the Narcotics Case History in SIMA?_____

Have you gone through the Gout Case History in SIMA?_____

Have you gone through the Parkinsonism Case History in SIMA?_____

Have you gone through the Sedative-Hypnotics Case History in SIMA?_____

enclosures

AB:lmt

PHARMACOLOGY 136 - COURSE EVALUATION FALL 1976

Please help us in planning future versions of Pharmacology 136 by filling out this form. Rate each item by circling the number or word that most clearly describes your own position or feeling.

1. Should we retain the lab demonstration on narcotic agonists and antagonists? YES NO
   Suggestions: _____

2. Should we retain the lab demonstration on other CNS agents? YES NO
   Suggestions: _____

3. Should we retain the student participation double blind sedative-hypnotic lab? YES NO
   Suggestions: _____

4. Do you favor retaining the multiple-exam format used in Pharmacology 125 and 136? YES NO
   Suggestions: _____

Answer questions 5,6,7 if you went through one or more of the computer case histories in SIMA this quarter.

5. Please rate the computerized case(s) which you went through:

	Poor		Average		Excellent
A. Narcotic Analgesics	1	2	3	4	5
B. Gout	1	2	3	4	5
C. Sedative-Hypnotics	1	2	3	4	5
D. Parkinsonism	1	2	3	4	5

6. Would you like to see more self-instructional computer program like those listed above?
   No Opinion YES NO

7. Please make any comments that you wish regarding the computer case histories used this quarter. _____