

# Sex Reassignment

## Follow-up

Jon K. Meyer, MD, Donna J. Reter

• Although medical interest in individuals adopting the dress and life-style of the opposite sex goes back to antiquity, surgical intervention is a product of the last 50 years. In the last 15 years, evaluation procedures and surgical techniques have been worked out. Extended evaluation, with a one- to two-year trial period prior to formal consideration of surgery, is accepted practice at reputable centers. Cosmetically satisfactory, and often functional, genitalia can be constructed. Less clear-cut, however, are the characteristics of the applicants for sex reassignment, the natural history of the compulsion toward surgery, and surgery's long-term effects. The characteristics of 50 applicants for sex reassignment, both operated and unoperated, are reviewed. The results of long-term follow-up are reported in terms of such indices as job, educational, marital, and domiciliary stability. Outcome data are discussed in terms of the adjustments of operated and unoperated patients.

(*Arch Gen Psychiatry* 36:1010-1015, 1979)

Historical, mythological, and cross-cultural aspects of "transsexualism" have been reviewed by Green.<sup>1,2</sup> Desires to identify with and assume the role of the opposite sex have been recognized since antiquity. Cauldwell<sup>3</sup> introduced the term transsexualism to signify individuals wishing to be the opposite sex, distinguishing them from transvestites. Common usage of the term came about, however, as a consequence of the publication of *The Transsexual Phenomenon* by Benjamin.<sup>4</sup>

Abraham<sup>5</sup> is credited with the first surgical procedure on a transsexual patient. Occasional operative reports followed this initial venture, but the procedure did not become well-known until 1953, when Hamburger et al<sup>6</sup> reported the case of Christine Jorgenson. The treatment of

Ms Jorgenson differed from preceding reports in that surgery was performed after a period of hormonal castration and psychiatric observation. In 1960, a bilateral reduction mammoplasty in a female wishing to be male constituted the first procedure at The Johns Hopkins Hospital.

The establishment of The Johns Hopkins Gender Identity Clinic and Committee in 1965 is detailed by Money and Schwartz.<sup>7</sup> The public controversy surrounding the beginnings of the program died away in a surprisingly short time. Initial objections to sex reassignment<sup>8</sup> yielded to an almost routine acceptance, leading Stoller<sup>9</sup> to comment on the neglect of assessment, diagnosis, and treatment selection. Previous reports from the Hopkins series have emphasized the clinical characteristics of applicants for sex reassignment<sup>10,11</sup> and have remarked on their close relationship to the perversions<sup>12</sup> and their inclusion within the borderline personality syndromes.<sup>13</sup>

The presentation of a biologically normal male or female requesting ablation of sexual and reproductive organs and construction of opposite sex facsimiles still presents a clinical and scientific problem of no small degree. Familiarity has sometimes obscured the essential problematic character of this request. The attempt in this article is to step back from "normalization" of sex reassignment procedures in order to look objectively at the long-range effects of surgery.

### SEX REASSIGNMENT FOLLOW-UP: THE LITERATURE

Benjamin,<sup>4</sup> reporting on 51 reassigned biological males, estimated "good" results in 33% (integration into the world of women, acceptance by the family, and reasonable sexual adjustment); "satisfactory" in 53% (less successful adjustment, although meeting most of the patient's wishes); and "doubtful" in 10% (appearance and sexual function unsatisfactory, despite some relief from unhappiness). One patient was deemed to have an unsatisfactory result and one was lost to follow-up. Results were based on personal contact in 46 cases.

Accepted for publication May 15, 1978.

From the Departments of Psychiatry and Surgery (Dr Meyer), The Johns Hopkins University School of Medicine, and the Sexual Behaviors Consultation Unit, Department of Psychiatry and Behavioral Sciences (Dr Meyer and Ms Reter), The Johns Hopkins Medical Institutions, Baltimore.

Read before the annual meeting of the American Psychiatric Association, Toronto, May 2-6, 1977.

Reprint requests to Phipps 009, The Johns Hopkins Hospital, Baltimore, MD 21205 (Dr Meyer).

Benjamin<sup>4</sup> also reported anecdotal experience with 20 female patients:

The results of either androgen therapy or operations or both have generally been decidedly satisfactory. With one doubtful exception . . . all patients under my observation . . . were benefitted.

Randall<sup>14</sup> reported on 29 biological males and six females assessed from three months to several years postoperatively. Five men had shown "psychopathic and antisocial propensities" and nine, "depressive illnesses of varying degrees" prior to operation. Three had depressive relapses postsurgically and two committed suicide. Comparing preoperative and postoperative adjustment of male patients by means of social and subjective criteria, Randall reported a shift from 86% fair or poor adjustment preoperatively to 72% excellent or good postoperatively. Twenty-two males were satisfied with surgery, six were dissatisfied, and one wished the reassignment undone. The six females received androgens and underwent various surgical procedures (although none underwent hysterectomy and oophorectomy). Results were judged to be excellent in three, good in two, and fair in one.

Money<sup>15</sup> published "prefatory remarks" on outcome in 17 males and seven females. All but one expressed an unequivocal feeling of having done the right thing by undergoing reassignment. Nine males improved in employment status and eight maintained the status quo; among females, the figures were three and four, respectively. No females had police records. Six males had been arrested prior to reassignment; the two with more serious charges were arrested again postoperatively. None became psychotic. Seven males and three females married for the first time after reassignment.

Edgerton and Meyer<sup>16</sup> reported early psychosocial follow-up in 13 biological males surveyed by questionnaire. All reported "no regrets" and claimed relief from anxiety associated with "illegal" presurgical cross-dressing. One patient attempted suicide, but none of the others experienced a gross emotional disorder. Sexual adjustment was mixed, 60% reporting feelings identified as orgasmic.

Hastings<sup>17</sup> presented data from halfway in a planned ten-year follow-up of 25 reassigned males. No patients with a known history of overt mental illness were accepted into the program, but two psychotic episodes were seen postoperatively, four patients made serious suicidal attempts, and one was shot and seriously wounded. Adjustment in this series was rated on a 4-point scale (from poor to excellent) in each of four major categories: economic, social, sexual, and emotional. Criteria for ratings of poor, fair, good, or excellent were defined in terms of observable or readily inferable variables. Hastings' data indicate postoperative adjustments that averaged between good and fair.

Hore et al<sup>18</sup> reported brief follow-up experience with 16 reassigned males. Eleven were reported to have "definitely benefitted from the operation . . . feeling more female and having increased confidence in their new role." Five were dissatisfied, three citing surgical complications and two not feeling "fully female."

Follow-up makes it clear that obvious psychiatric disturbance, serious postsurgical ambivalence, and gross dysso-

cial behavior are infrequent complications of surgical intervention. The careful study by Hastings, however, is somewhat more even-handed about postoperative adjustment than the more dramatic improvement indicated in earlier reports.

## THE HOPKINS STUDY

In 1971, a follow-up was inaugurated of 100 Gender Identity Clinic (GIC) patients, 34 operated and 66 unoperated. All had applied to the GIC for sex reassignment and had been evaluated prior to the study. The 34 operated patients constituted the total group of patients well known to the Hopkins Clinic who had been operated on at the time follow-up began. Twenty-four were operated on at The Johns Hopkins Hospital, ten at other institutions. The 66 unoperated patients (all of whom had been seen by the first author) comprised the total active unoperated file at the time of follow-up inauguration.

The pivotal point separating baseline from follow-up differed in the operated and unoperated groups. In the operated group, it was the point of sex reassignment surgery, and in the unoperated, it was the initial GIC interview, in which the patient was accepted as an applicant and the criteria to qualify for formal consideration of sex reassignment were explained (living and working in the desired role with concurrent hormones for at least one year). At the point of initial GIC interview (ie, the time follow-up began), the unoperated patients had not met the criterion of a trial period and could not be considered for surgery. The situation among the operated subjects was more complex. At the beginning of the Hopkins program, a formal, documented, and GIC-supervised trial period was not insisted on. Therefore, the surgical qualifying requirements for the earlier operated patients were not as structured as in subsequent years. Among the 34 operated patients, 21 (62%) had documented trial periods that would satisfy current standards. The remaining 13 had all been well established in the cross-gender role at surgery, but might not have worked in that role or taken hormones with regularity.

Sustained efforts were made to bring the patients to Baltimore for follow-up. Some distant patients were reluctant to return, so the first author traveled to a more centrally located city for some interviews. All patients included in the follow-up were personally interviewed. Interviews were conducted and utilized only with the informed consent of the patient. When the follow-up effort was completed in late 1974, 52 patients had been interviewed; 50 gave consent for publication of their data. In all instances, patient permission was sought to contact other physicians for confirmation of surgical procedures, medical treatment, and hormone administration.

Follow-up interviews were organized into three components: the first covering the more observable criteria of adaptation (eg, residence, education, and job); the second, family relationships and adaptational patterns at major life intervals (eg, grade school, high school); and the third, fantasy, dreams, and sexual activity. Interviews ranged from two to four hours in length. Sessions were recorded and transcribed, providing, along with notes, the corpus of research data. Material for this article, intended to report the observable and objective factors in adjustment, was taken almost exclusively from the first interview component.

The inclusion of unoperated subjects is an important departure from the usual procedure of reporting only postsurgical patients. These unoperated individuals were considered a comparison group for the operated subjects. While not a rigorous control group, they provided the only available approximation to it. From the medical point of view, because of the serious and irreversible nature of the surgery, random assignment to the operative group was not possible. From the patient's perspective, the passionate demands for reassignment did not allow random assignment to the nonop-

Table 1.—Comparison of Subjects and Patients Lost to Follow-up

Group	No. of Patients	Sex, %		Race, %			Residence at Initial Interview, %			Average Age, yr	Socio-economic Level	Where Operated, %		Surgical Complications	
							Maryland or District of Columbia	Sur-rounding States	Other			Johns Hopkins	Other	% per Patient	
		M	F	W	B	Other									
Operated															
Followed	15*	73	27	66	27	7	27	40	33	30.1	3.9	67	33	53	1.8
Lost to follow-up	17	76	24	100	0	0	6	41	53	30.5	3.8	70	30	52	1.7
Unoperated															
Followed	35	80	20	94	6	0	34	43	23	28.4	3.9	(43)†	(57)‡	N/A	N/A
Lost to follow-up	31	77	23	90	10	0	29	32	39	29.5	3.7	(39)†	(61)‡	N/A	N/A

\*Two patients refused permission for publication of their data. Their inclusion would bring the number to 17.

†First consultation at Johns Hopkins.

‡First consultation elsewhere.

erative group. To reiterate, the inclusion of the unoperated subjects in follow-up was considered essential, not only as an approximation of a control group, but also, as a group of unoperated subjects who might contribute to an understanding of the natural course of the wish for sex reassignment.

### RESULTS

#### Follow-up and Attrition

Follow-up was achieved and data could be published for 50% of the sample. Hoped-for follow-up percentages in the 70% to 80% range were mitigated against by the realities of a national sample and the difficulty in reestablishing contact with some patients.

Considering the low follow-up percentage, subject representability must be assessed. Table 1 compares sex, race, Hollingshead socioeconomic level, age at initial interview, and surgical and consultation variables for subjects and those patients lost to follow-up, who appeared comparable along these indices.

Exceptions to this comparability include the racial distribution and trial period completion in the operated group. The four blacks in the operated group lived in close proximity to the interview sites, accounting in part for their complete inclusion. Of the operated subjects, 73% (11 of 15) had by current standards completed a formal trial period prior to surgery. Two of the remaining four had long established themselves in the cross-gender role, but had not taken hormones regularly; one patient had taken hormones regularly, but had not established a full-time cross-sexual identity. The remaining subject had a still more qualified trial period. Among operated patients lost to follow-up, 59% (ten of 17) had completed a "formal" trial period prior to surgery. In both operated and unoperated groups, subjects in comparison with those lost to follow-up tended more to live in Maryland, the District of Columbia, and surrounding states.

Average follow-up for operated subjects was 62 months (range, 19 to 142) and for unoperated subjects, 25 months (range, 15 to 48). The difference in length of follow-up is a product of having very complete records on the operated cases from the earlier years, but having comprehensive records on the unoperated cases dating only from mid-1969.

#### Social Change

Frequency of change of residence was selected as one index of social stability. In looking at this variable, the

average number of months per given address was compared for equal time periods prior to and during follow-up. Applicants for sex reassignment have been noted to be unsettled, moving frequently and often leaving no forwarding address, behavior attributed to the insecurity of "masquerading" prior to genital surgery. For both operated and unoperated subjects, however, there was slightly more residential instability following surgery or interview. The average number of months between moves for operated subjects was 20 (presurgery) and 18 (follow-up); for unoperated subjects, 12 (precontact) and 10 (follow-up).

Job and educational levels (Hollingshead) were selected as the two other indices of social adjustment. Job levels indicated a slight upward trend for both groups, somewhat more for operated subjects (5.2 to 4.9) than for unoperated subjects (5.2 to 5.1), but occurring over a longer average follow-up period. Educational levels initially and at follow-up showed essentially no change: operated subjects, 5.1 and 5.1, respectively (no change), and unoperated subjects, 4.0 to 3.9, respectively. In general, the operated subjects were less well educated than the unoperated subjects. Socioeconomic levels of individual patients were usually the same as those of the family of origin.

Since job level is an important index, subjects were used as their own controls in a frequency distribution of job level change during follow-up. There was little observable difference between operated and unoperated subjects. Forty-seven percent of operated subjects and 43% of unoperated subjects showed no change, and 74% of operated and 71% of unoperated subjects were bracketed between a decrease or increase of one job level in comparison with baseline.

#### Psychiatric Contact

Psychiatric contacts were compared for unoperated and operated subjects. Seventy-two percent of unoperated subjects had psychiatric contact prior to the initial interview; in the follow-up, only 28% had further contacts. This contrasts with 33% and 8% for operated subjects at comparable times. The bulk of the psychiatric contacts represented forays in search of "understanding" or certification for sex reassignment.

Two unoperated patients were psychiatric inpatients prior to being interviewed, and one was followed up

Table 2.—Comparison of Original Operated, Operated During Follow-up, and Unoperated Patients

Status	No. of Patients	Sex, %		Race, %			Average Age, yr	Socio-economic Level	Average No. of Gender Identity Clinic Consultations		Where Operated, %		Surgical Complications	
		M	F	W	B	Other			Before Follow-up	During Follow-up	Johns Hopkins	Other	%	per Patient
Operated*	15	73	27	66	27	7	30.1	3.9	5.8	1.2	67	33	53	1.8
Unoperated, subsequently operated*	14	93	7	100	0	0	30.9	4.2	2.4	2.9	36	64	29	1.3
Unoperated, not subsequently operated	21	76	24	90	10	0	26.7	3.5	2.0	1.2	...	...	...	...

\*Patients with full genital reassignment or surgical removal of reproductive organs.

continuously in posthospital care. One unoperated subject was hospitalized during follow-up after undergoing sex reassignment elsewhere. One operated subject had been psychiatrically hospitalized prior to surgery and one was hospitalized after surgery.

### Reversal of Surgery

One of the serious potential complications of sex reassignment surgery is the possibility that the patient will consider that a mistake has been made. Reports of such cases have been both anecdotal and documented.<sup>14,19</sup> In the Hopkins' series, a biological female who had undergone mastectomy, removal of internal reproductive organs, and phallus construction eventually requested removal of the phallus, but not negation of the entire reassignment procedure. This request came after many surgical complications. She was later hospitalized briefly for pentazocine dependency and suicidal ideation. None of the other patients were known to have requested an "undoing" of the surgical procedure.

### Continued Pursuit of Sex Reassignment

Of the 35 unoperated patients, 14 (40%) pursued surgical reassignment essentially to completion during follow-up. Five underwent their surgery at Hopkins, and nine elsewhere. Another was approved for surgery at Hopkins, but did not follow through. At other institutions, one patient underwent augmentation and castration, but not genital reassignment, and another underwent rhinoplasty and thyroid cartilage shave.

In other words, of the 35 unoperated subjects, five (14%) completed a trial period satisfactorily, were offered sex reassignment at Hopkins, and underwent surgery. (One patient completed a trial period and was offered surgery, but declined. He is included with the residual unoperated subjects.) Nine (26%) of the 35 sought surgery elsewhere without satisfactorily completing the trial period.

Five male unoperated subjects (14%) had given up anything approaching pursuit of sex reassignment during the follow-up, although they did at times nourish fantasies of being female. The remaining 21 (60% of the original 35) still stated an active interest in sex reassignment without either completing the trial period or pushing on to surgery.

### Overall Assessment of Outcome

The observation that some unoperated patients did subsequently undergo reassignment establishes three

Table 3.—Adjustment Scoring System

Category	Score
Legal	
Arrested only	-1
Arrested and jailed	-2
Economic	
Hollingshead job level	
1 or 2	+3
3 or 4	+2
5 or 6	+1
7 or 8	0
Cohabitation	
Cohabit	
Gender-appropriate	+1
Nongender-appropriate	-1
Marriage	
Gender-appropriate	+2
Nongender-appropriate	-2
Psychiatric	
Contact	-1
Outpatient treatment	-2
Hospitalization	-3

groups of interest: the original operated group; an originally unoperated but subsequently operated group; and an unoperated and not subsequently operated group, constituting the residual unoperated subjects.

Table 2 outlines demographic and surgical data for the three groups. Originally unoperated but subsequently operated patients, like operated subjects, are, on the average, slightly older and of lower socioeconomic level than unoperated and not subsequently operated subjects. There was no difference in psychiatric contacts between the residual unoperated subjects and those who were unoperated originally but subsequently operated on. The residual unoperated group was followed up for an average of 27 months (range, 17 to 48), whereas the subsequently operated group was followed up for an average of 21 months (range, 15 to 34).

In order to compare outcome for the three subject categories, initial and follow-up adjustment scores were calculated by summing scores based on concrete behaviors in four categories: legal, economic, marriage or cohabitation, and psychiatric. An effort was made to weight the scores so that no one category was overrepresented as a determiner of outcome. Table 3 indicates the scoring system. Most of the scoring is self-evident. However, if the patient is male requesting reassignment as female, a gender-appropriate cohabitation or marriage means that

Table 4.—Adjustment Scores Initially and at Follow-up, With Change Scores

Group	Initial			Follow-up			Change		
	Mean	Range	SD	Mean	Range	SD	Mean	Range	SD
Operated	-2.07	-18- + 4	6.68	+ 1.07	-1- + 4	1.53	+ 3.13*	-2- + 19	6.33
Operated during follow-up	-1.14	-9- + 2	2.91	+ 0.21	-4- + 2	1.89	+ 1.36	-3- + 10	3.03
Unoperated	-1.33	-7- + 2	2.61	+ 1.10	-4- + 4	1.97	+ 2.43†	-2- + 8	2.73

\*Borders on significance:  $P < .10$  (two-tail);  $P < .05$  (one-tail).

†Significant:  $P < .001$  (two-tail).

he lives with, or marries, a man as a female; a non-gender appropriate situation would be one in which the patient, while requesting sex reassignment, nonetheless cohabitated or married as a man.

Table 4 lists the means and standard deviations in each group initially and at follow-up, as well as change scores. The lowest initial mean score was in operated subjects. However, there is no significant difference among the initial adjustment levels for the three subject categories.

Adjustment scores at follow-up reflect a positive shift in means, a narrowing of the ranges, and a tightening of the standard deviations. The operated and unoperated (not subsequently operated) subjects show nearly equal means, both more highly positive than the group operated on during follow-up. There is again, however, no significant difference in follow-up scores.

On the other hand, change scores for operated patients approach significance ( $P < .10$ ) and for unoperated patients (not subsequently operated) are clearly significant ( $P < .001$ ). Change scores for unoperated subjects subsequently operated on, as a whole, are not significant. The poorest follow-up scores (mean,  $-0.4$ ) were seen among that subgroup of subsequently operated patients who precipitously pursued surgery elsewhere. Those unoperated, subsequently operated patients who underwent surgery at Hopkins have a mean adjustment score of  $+1.0$ .

In the original operated group, a comparison of initial and follow-up adjustment scores, as well as change scores, was made for those subjects who had completed a formal trial period ( $N = 11$ ) and those whose presurgical trial was less exacting ( $N = 4$ ). No statistically significant difference was found. Interpretation is difficult because of the small number of patients, but there was a tendency for those subjects without formal trial period to have lower initial and follow-up adjustment scores than those subjects with more rigorous trial periods.

At the most simple level, these data suggest that significant change in adjustment scores may be achieved either through surgery or through the passage of time in association with some contact and acceptance into an organized evaluation program. Operated patients who could not withstand the rigors of a trial period of living and working in the desired gender role clearly did less well than the unoperated subjects or their fellow operated subjects.

## COMMENT

Although only 52% of the sample was interviewed, subjects' initial values seemed comparable to those of

patients lost to follow-up along important demographic indices. None of the operated patients voiced regrets at reassignment, the operative loss of reproductive organs, or substitution of opposite sex facsimiles (except one, previously noted). Socioeconomically, operated and unoperated patients changed little, if at all, with operated patients demonstrating no superiority in job or education. The operated group showed greater residential stability. Unoperated subjects made more use of psychiatric contacts both before and after the initial interview, which relates to their somewhat higher educational level and the recent greater emphasis on psychiatric screening. Additionally, these patients, being unoperated, continued to seek various psychiatric endorsements for their quest. Forty percent of the original unoperated group pursued surgery to the point of genital ablation during follow-up; 14% gave up all active pursuit.

It is important to recall, in interpreting the data, that while both operated and unoperated subjects were followed up for substantial periods, the original operated group was followed up for an average of 62 months, whereas the original unoperated group was followed up for an average of 25 months. This difference may influence data interpretation in a variety of ways. For example, it is important to realize that the group of unoperated subjects may continue to characterize itself more definitively as time goes on. It seems likely that the percentages of subjects who are eventually operated on or who drop all pursuit of sex reassignment will change from what is reported here. On the other hand, five-year follow-up is certainly ample to demonstrate socioeconomic improvement and stability. The failure of the operated group to demonstrate clear objective superiority over the unoperated is all the more striking.

Initial adjustment scores indicate that the original operated group was slightly more distressed than the unoperated. Over follow-up, the original operated group and the residual unoperated group (not subsequently operated on) reached comparable adjustment levels, with the degree of positive change approaching significance for operated subjects and being clearly significant for the unoperated. Those patients who pursued surgery, particularly those who pursued it precipitously, showed levels of distress closer to initial levels. It seems clearly beneficial for patients to be considered for surgery within the environs of an organized program. Abandonment of a program and precipitous requests for surgery are contraindications for it.

In the Hopkins' program, no attempt was made to habilitate unoperated patients in the cross-gender role.

The patients were seen infrequently (Table 2), were not given hormones, and were not urged or instructed in either direction. The program is interested, concerned, but noninterventive, recognizing the strength of the wish for sex reassignment, but adopting a position of watchful waiting with regard to it.<sup>20</sup> For those patients who elected to pursue surgery, however, there came to be an insistence on full completion of a trial period of living and working in the desired gender role for at least a year, with concurrent hormones, prior to formal consideration of surgery. Selection for sex reassignment was essentially self-determined by the patient, dependent on his motivation, capacity to organize, and degree of ambivalence. It was not thought, because of the serious, irreversible nature of the surgery, that patients could be randomly assigned to operative or nonoperative categories.

Although other constructions are possible, the most conservative interpretation of the data is that among the

applicants for sex reassignment, there are operationally two groups who, in the face of a trial period, will self-select for or against surgery and that in either instance, improvement will be demonstrated over time, as judged by observable behavioral variables. Sex reassignment surgery confers no objective advantage in terms of social rehabilitation, although it remains subjectively satisfying to those who have rigorously pursued a trial period and who have undergone it.

This study was supported by Foundations' Fund for Research in Psychiatry grant 71-518.

The authors gratefully acknowledge the support, stimulation, and counsel of their colleagues: John E. Hoopes, MD, Milton T. Edgerton, MD, John Money, PhD, Howard Jones, MD, Lonnie Burnett, MD, Claude Migeon, MD, Natalia Chapanis, PhD, Dietrich Blumer, MD, and Horst Schirmer, MD, all of whom were members of The Johns Hopkins Gender Identity Committee at the time follow-up began. Leonard R. Derogatis, PhD, associate professor of medical psychology and director of research, The Sexual Behaviors Consultation Unit, assisted in data analysis.

## References

1. Green RL: Transsexualism: Mythological, historical, and cross-cultural aspects, in Benjamin H (ed): *The Transsexual Phenomenon*. New York, Julian Press, 1966, pp 173-186.
2. Green RL: Mythological, historical, and cross-cultural aspects of transsexualism, in Green R, Money J (eds): *Transsexualism and Sex Reassignment*. Baltimore, Johns Hopkins Press, 1969, pp 235-242.
3. Cauldwell DO: Psychopathia transsexualis. *Sexology* 16:274-280, 1949.
4. Benjamin H: *The Transsexual Phenomenon*. New York, Julian Press, 1966.
5. Abraham F: Genitalumwandlung an zwei maennlichen transvestiten. *Z Sexualwissenschaft* 18:223-226, 1931.
6. Hamburger C, Sturup GK, Dahl-Iverson E: Transvestism: Hormonal, psychiatric and surgical treatment. *JAMA* 152:391-396, 1953.
7. Money J, Schwartz F: Public opinion and social issues in transsexualism: A case study in medical sociology, in Green R, Money J (eds): *Transsexualism and Sex Reassignment*. Baltimore, Johns Hopkins Press, 1969, pp 253-269.
8. Green RL: Attitudes toward transsexualism and sex reassignment procedures, in Green R, Money J (eds): *Transsexualism and Sex Reassignment*. Baltimore, Johns Hopkins Press, 1969, pp 235-242.
9. Stoller R: Male transsexualism: Uneasiness. *Dan Med Bull* 19:301-316, 1972.
10. Meyer JK: Some thoughts on nosology and motivation among "transsexuals," in Laub D, Gandy P (eds): *Proceedings of the Second Interdisciplinary Symposium on the Gender Dysphoria Syndrome*. Stanford, Calif, Division of Reconstructive and Rehabilitation Surgery, Stanford University Medical Center, 1974, pp 31-33.
11. Meyer JK: Clinical variants among applicants for sex reassignment. *Arch Sex Behav* 3:527-558, 1974.
12. Meyer JK: Individual psychotherapy of sexual disorders, in Freedman A, Kaplan H, Sadock B (eds): *Comprehensive Textbook of Psychiatry*, ed 2. Baltimore, Williams & Wilkins Co, 1975, pp 1544-1555.
13. Meyer JK: Training and accreditation for the treatment of sexual disorders. *Am J Psychiatry* 133:389-394, 1976.
14. Randall J: Preoperative and postoperative status of male and female transsexuals, in Green R, Money J (eds): *Transsexualism and Sex Reassignment*. Baltimore, Johns Hopkins Press, 1969, pp 355-382.
15. Money J: Prefatory remarks on outcome of sex reassignment in 24 cases of transsexualism. *Arch Sex Behav* 1:163-165, 1971.
16. Edgerton MT Jr, Meyer JK: Surgical and psychiatric aspects of transsexualism, in Horton C (ed): *Surgery of the External Genitalia*. Boston, Little Brown & Co, 1973, pp 117-161.
17. Hastings D: Postsurgical adjustment of male transsexual patients, in Meyer JK (ed): *Sex Assignment and Sex Reassignment: Intersex and Gender Identity Disorders*. *Clin Plast Surg* 1:335-344, 1974.
18. Hore B, Nicolle F, Calnan J: Male transsexualism in England: 16 cases with surgical intervention. *Arch Sex Behav* 4:81-88, 1975.
19. Money J, Wolff G: Sex reassignment: Male to female to male. *Arch Sex Behav* 2:245-250, 1973.
20. Meyer JK, Hoopes JE: The gender dysphoria syndromes: A position statement on so-called "transsexualism." *Plast Reconstr Surg* 54:444-451, 1974.