

Position Classification Standard for Restoration Technician Series, GS-0664

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SERIES DEFINITION¹

This series includes all classes of positions the duties of which are to advise on, supervise, or perform technical work involving the development, design, fabrication, fitting to patients, and repair of custom-made medically prescribed appliances which are used primarily for cosmetic and restorative purposes. The prime objective of the work is to compensate for lose or damage to various areas of the human body by restoring a normal appearance that will facilitate the patient's social and vocational rehabilitation. This objective is attained through the use of painting, sculpturing, molding, and casting techniques, working with a wide variety of materials, in the fabrication of appliances which are as natural in appearance (size, form, texture, translucency, color, etc.) as the original tissues of the patient's normal feature or body member.

EXCLUSIONS

1. Positions concerned with the performance of duties which involve work in the construction and repair of dental prosthetic appliances. Such positions are included in the [Dental Laboratory Aid and Technician Series, GS-0683](#).
2. Positions which involve work in the construction or repair of orthopedic appliance such as orthotic braces, orthopedic shoes and/or prostheses (devices to replace a missing limb or part thereof) which are purely mechanical, or hands constructed from wood, metal, and/or leather. Such positions are included in the [Orthotist and Prosthetist Series, GS-0667](#).
3. Positions which involve scientific illustrating work in the field of medicine. Such positions are included in the [Illustrating Series, GS-1020](#).

SPECIALIZATIONS AND TITLE STRUCTURE

There are three principal areas of restoration technician work. Most restoration technicians perform work in all three areas; however, some positions may be found in which work is limited to one or two of them. Where the position involves substantial work in two or all three areas, the proper title is Restoration Technician (General). Where work is limited to one area, the proper title is Restoration Technician, with a parenthetical suffix indicating the specialty area. The prefix *Supervisory* will be included in the title where appropriate.

Specialized areas of restoration technician work are:

Ear inserts. -- This work involves taking measurements and impressions for, fabricating and fitting various types and designs of ear inserts for use with hearing aids (e.g., hard plastic ear inserts, soft plastic ear inserts, metallic ear inserts and combination ear inserts,

¹ This standard was prepared in collaboration with the Veterans Administration.

and phantom, skeleton, or "canal" molds for eyeglass and other on-the-head type hearing aids). It also includes other types of aural appliances, such as ear defenders for protection against excessive air pressure, water pressure, noise and mechanical and bacterial contamination, and aural splints to maintain external canal openings.

Artificial eyes. -- This work involves taking measurements and impressions for, fabricating, and fitting replacements for missing oculi or tissues of an ocular area. These include: (1) plastic artificial eyes (reform, shell, special modified); (2) various types of orbital and ocular implants (passive, mechanical and magnetic) used to replace the eyeball or surrounding bony parts of the face; (3) orbital restorations which involve replacement of an eye along with lost tissues of the orbital area, including the eyelids and surrounding tissue; and (4) special mechanical and cosmetic aids, such as eyelid retractors, special syringe, moist chamber eye glasses, lachrymal duct probes, etc. The work may include making a variety of casts and models of orbital areas for recording plastic surgery progress and for demonstration, teaching or research purposes.

Facial and body. -- This area of work involves taking measurements and impressions for, fabricating, and fitting, cosmetic or cosmetic-functional replacements for various missing facial or body parts. It includes various types of facial restorations (ears, noses, etc.) and body restorations, such as cosmetic artificial full or partial hands, cosmetic gloves, restorations for large areas of soft tissue losses, plastic bony parts and a large variety of other cosmetic restorations and appliances for various parts of the body. It may include such restorations as artificial femur heads, acetabula, etc., as well as a variety of casts and models for recording plastic surgery progress, and for demonstration, teaching, and research purposes.

EXPLANATORY STATEMENT

Five essential steps are common to the fabrication of all prostheses. They are: (1) determination of the type and design of the prosthesis to be made; (2) taking an accurate impression; (3) construction of the model in wax, modeling clay, or other material; (4) fabrication of the prosthesis; and (5) final fitting and adjustment. In each of the different prostheses fabricated there are differences in techniques, processing, apparatus, material, and knowledge and skill requirements for the five steps. The work requires a high degree of skill in sculpturing and modeling, and in coloring using a variety of media, since proper pigmentation and translucency are vital to a natural appearance of the finished prosthesis. It requires extremely precise workmanship in taking impressions, and in the molding, casting, finishing, polishing, and fitting procedures in order to secure a proper fit of the finished prosthesis. For example, slight inaccuracies in fabricating artificial eyes may cause discomfort, or even injury to the wearer; slight inaccuracies in ear inserts may permit air leakage which renders the prosthesis unsatisfactory, etc.

A substantial knowledge of chemicals, plastics and metals; their properties and behavior; and of tools and equipment for working with them is required.

Contacts with patients. -- Restoration technicians have direct physical contact with patients, both in taking necessary measurements and impressions, and in fitting finished prostheses. These contacts occur at a time when patients may be very disturbed emotionally as a result of their disfigurement, and an unusual degree of tact and skill is frequently required to reassure patients and secure their cooperation. In some cases, extreme care may be required in taking impressions to avoid introducing impression material into the lungs, sinuses or intestines of the patient and consequent discomfort or injury to the patient.

Contacts with physicians. -- In many cases, patients may be referred for prosthesis with simply a prescription, clinical treatment record, or letter. In some cases, however, the attending physician or surgeon and the restoration technician discuss the case following surgery to determine the best type of restoration. The restoration technician explains the possible means of restoration, extent of tissue coverage, types of materials which might be used, possible methods of retention, and their effects. The physician or surgeon instructs the restoration technician concerning tissue condition, areas of sensitivity, and any physical or medical conditions which may require modification of the restoration for the patient's comfort or protection.

In some instances, the restoration technician may be consulted prior to surgery to provide information to the surgeon concerning restoration possibilities so that these may be taken into account in planning operative procedures. Consideration of restoration possibilities prior to surgery, taking into account seam lines, undercuts, means of retention of the prosthesis, etc., may permit the restoration technician to provide a much more satisfactory prosthesis, and may avoid the need for further surgery for site preparation. Occasionally, as in the case of skull implants, it may be necessary for the restoration technician to go to the site of the operation and make custom fitting adjustments at the time the surgery is being performed.

Experimental and developmental work. -- The work of the restoration technician inherently involves ingenuity in the design and fabrication of custom-fitted prostheses. At the same time, however, some positions may involve, either by the deliberate assignment of such work, or by the unusual creative ability of the incumbent, a significant amount of experimental and developmental work leading to improvement of technique or materials, or the development of new or improved types of appliances. Where such experimental and developmental work is performed systematically, or has actually led to important improvements, it may be significant for classification purposes.

CRITERIA FOR DETERMINING GRADE LEVEL

The grade level of a restoration technician position is measured by application of the following three basic classification criteria taken together:

1. *Nature and variety of work.* -- This refers to types of restorations worked on; type and extent of experimental and developmental work performed; responsibility for lectures, seminars, and other educational activities; responsibility for giving advice to physicians, surgeons, etc.; and responsibility for organizing and running a restoration clinic program.
2. *Supervision received.* -- This refers to the type of review given work; whether supervision is technical or administrative.
3. *Knowledges and abilities required.* -- This refers to knowledge of materials and techniques used for cosmetic restorations and the ability to use them; ability to give advice to physicians, surgeons, etc.; ability to carry out or conduct experimental and developmental activities; ability to give lectures and conduct seminars and other educational activities; and the ability to meet and deal with patients, their families, members of the hospital or clinic staff, and outside groups.

Specific grade level criteria are provided for grades GS-7 through GS-11. Grades GS-5 and GS-6 represent basic and advanced trainee levels, and are not specifically described since there are so few positions at those levels.

RESTORATION TECHNICIAN (GENERAL), GS-0664-07

Nature and variety of work

GS-7 restoration technicians perform all steps required in the fabrication and fitting of a wide variety of custom-made restorative appliances. The range of work characteristic of this level includes all types of custom-made ear inserts including those types which are considered most difficult, conventional types of artificial eyes, and those types of facial and body restorations that are considered to be of somewhat limited difficulty and responsibility. They receive training in creating prostheses characteristic of the next higher level. Independent physical contacts are made with patients and incumbents may discuss cases with physicians, primarily to receive instructions concerning conditions to be met by the prescribed restoration, and to explain restoration techniques which may be used.

The following examples are illustrative, though not all inclusive, of the type of work performed at this level:

1. The restoration technician fabricates the full range of types and designs of ear inserts. This includes various types and designs of ear inserts for use with hearing aids (hard plastic ear inserts, soft plastic ear inserts, combination ear inserts, phantom or skeleton or

"canal molds" for eyeglass and other on-the-head type hearing aids), and for other aural problems such as ear defenders for protection against excessive air pressure, water pressure, noise, and mechanical and bacterial contamination, or as aural splints. This involves the full range of duties inherent in the fabrication of the ear inserts consisting of designing ear inserts from negative impressions on positive molds, performing the laboratory processes involved in the fabrication of the inserts, fitting and making final adjustment, and furnishing instructions to patients in the use and maintenance of ear inserts. It also includes responsibility for the most difficult types of ear insert fabrication, such as inserts for ears with abnormal anatomical variations.

2. The restoration technician fabricates conventional types of artificial eyes (i.e., reform, shell, etc.) presenting no problem of design and fitting. This responsibility involves (1) following the prescription, (2) taking impression, (3) designing the prosthesis, (4) preparing wax models, (5) fabricating the prosthesis, (6) painting the prosthesis, and (7) fitting the prosthesis. The laboratory process includes drying of painted iris disks and processing the iris button by packing disks properly positioned with clear acrylic plastic in stainless steel dies. The basic wax scleral form is invested in artificial stone. The iris button is put in the negative mold and acrylic plastic of the predetermined shade is packed and processed. After polishing, the eyes are painted, fitted and adjustment made as necessary.

3. The restoration technician fabricates some of the more limited types of facial restorations (ears, noses, etc.) and body restorations (cosmetic artificial hands, restorations for large areas of soft tissue losses, etc.) presenting no special problems of design, fitting and function, or of cosmetic results. This typically involves a variety of steps such as (a) following a prescription, (b) taking the impression, (c) designing the appliance, (d) casting plaster molds of all or part of the face or head, in a plaster reinforced agar composition impression, (e) investing the wax model in artificial stone, and mixing, packing, and processing the plastic material to replace the wax, (f) making impressions of a partial hand and wrist, using hydrocolloid material or two- or three-piece plaster or stone molds, (g) pouring, curing, and processing liquid plastic in molds made from latex rubber, (h) fabricating partial hand forms from foam plastic reinforced by wire armatures, (i) performing repairs on prostheses required as a result of wear or accident, i.e., replace cosmetic glove, repair armature, retint, (j) forming and shaping small tantalum or plastic implants, (k) sculpturing, tinting, etc.

Supervision received

Restoration technicians at this level work under the general supervision of a higher grade restoration technician; unusual and problem cases are referred to the supervisor. Work assignments typical of the next higher level are performed under close supervision.

Knowledges and abilities required

Performance of work at this level requires a good working knowledge of special materials, instruments, and other equipment, and of the design, sculpturing, and coloring techniques used in the fabrication of cosmetic restorations. A basic knowledge of physiology, anatomy, and tissue characteristics, to recognize deviation from normal conditions, is also required. GS-7 restoration technicians must have a high degree of skill in painting and sculpturing lifelike prostheses, and in molding, casting, and curing; they must also have the ability to work independently with patients and physicians.

RESTORATION TECHNICIAN (GENERAL), GS-0664-08*Nature and variety of work*

GS-8 restoration technicians independently perform all steps required in the fabrication and fitting of custom-made restorative appliances when assignments regularly include cases which may involve any type of artificial eye work and cases involving a variety of facial and body restorations as described below. The full range of ear insert work may also be performed by a restoration technician in this class, but such work does not, of itself, support classification at this level. Work performed at this level differs from that performed at the GS-7 level in that it involves the performance of a significant amount of more difficult artificial eye and facial and body work. Artificial eye work, for example, will include orbital implants, and restorations involving eyelids and surrounding tissues. Facial and body restorations may be difficult because they involve fairly large areas presenting substantial problems in design and fitting, or because they present difficult problems in attaining satisfactory cosmetic results. Work at this level may also involve fabricating exhibits and models to illustrate restoration problems and techniques.

The following examples are typical of the more difficult restorations fabricated at this level:

1. Fabrication of prostheses which involve replacement of an eye along with lost tissue of the orbital area, including the eyelids and surrounding anatomical structures; fabrication of special mechanical aids such as esophageal tubes, eye shields, and plastic aural devices to correct collapsed external auditory canals or to prevent their collapse after surgery. Various types of ocular implants used to facilitate movement of an artificial eye are also fabricated at this level. These may include the Ball, Allen, Radin, Gearhart-Toombs, Iowa, etc., types of exposed or buried mechanical or magnetic implants.
2. Fabrication of facial restorations for areas such as nose and part of cheek, portion of the lower jaw, or ear and portion of face extending onto cheek.

Supervision received

As at the GS-7 level, restoration technicians at this level work under the general supervision of a higher grade restoration technician. Unusual and problem cases are referred to the supervisor.

Knowledges and abilities required

Performance of work at this level requires a high degree of originality and resourcefulness since prescriptions usually indicate only the patient's need for a restoration rather than instruction or technical advice. Ability to meet and deal independently with patients, members of the patient's family, and physicians is required. Contacts with patients frequently occur at times when the patient is under severe emotional stress, and therefore require unusual tact and skill.

RESTORATION TECHNICIAN (GENERAL), GS-0664-09*Nature and variety of work*

GS-9 restoration technicians independently perform the full range of restoration work including, on a regular and recurring basis, a significant amount of work which is unusually difficult and responsible, as represented by the following:

1. Work which involves responsibility for making preoperative recommendations to surgeons on tissue removal deemed necessary for the production of good restoration appliances. This typically includes advice with respect to seam lines, undercuts, means of retention of prosthesis, etc.
2. Work which includes fabrication of prostheses to be implanted internally to replace missing bony parts of the body, such as skull plates (stainless steel, plastic, etc.) femur heads, acetabula, and other replacements for missing bony parts. Sometimes it is necessary to go to the site of the operation and make custom fitting adjustments at the same time surgery is performed. For example, after a skull plate has been fabricated by the restoration technician, he may work in the operating room to shape the skull plate as the surgeon requires it.
3. Fabrication of cosmetic facial restorations for extensive anatomical losses such as combined nose and orbital areas, cheek and maxillary bony areas, large orbital areas in which both tissue and bone have been lost, etc.
4. The independent and responsible performance of experimental and developmental work in search of new and better materials and/or techniques or improved types of appliances.

5. Responsibility for giving lectures and demonstrations on cosmetic restorations for training professional and nonprofessional staff members, trainees, and visitors at the station in which the clinic is located.

Supervision received

Restoration technicians at this level work under the general supervision of a higher grade restoration technician. Only unusual and precedent-setting cases are referred to the supervisor for technical supervision and consultation.

Knowledges and abilities required

Performance of work at this level requires the ability to fabricate and fit the most difficult types of cosmetic prosthetic appliances; the ability to advise surgeons on the extent of tissue removal deemed necessary for the production of good restoration; the ability to deal effectively with patients who have suffered the most serious sorts of disfigurements; the ingenuity to independently carry out experimental and developmental work; and the ability to prepare and give lectures and demonstrations. Experimental and developmental work requires the knowledge and ability to test materials for their suitability in relation to tissue tolerance, elasticity, color life, porosity, density, etc.

RESTORATION TECHNICIAN (GENERAL), GS-0664-10

Nature and variety of work

Typical of this level is responsibility for organizing and operating a restoration clinic which provides a full range of restoration services (ear inserts, artificial eyes, and facial and body restorations). The clinic typically serves a large geographic area, and provides any restorations required by beneficiaries living in that area. However, a few exceptionally difficult cases may be referred to a clinic specializing in such cases.

The incumbent has full technical and administrative responsibility for planning and organizing the work of the clinic which provides all types of restoration services; he is responsible for developing plans and budget estimates covering the needs of the clinic, and for maintaining proper records and preparing activity reports; he is responsible for compliance with operating and administrative policies and practices established by higher levels, and for formulating and executing supplementary local policies and practices. He typically supervises the work of one or a few restoration technicians in lower grades.

Typically, the incumbent personally performs work of the nature and variety described at the GS-9 level, and may plan and personally perform or supervise experimental and developmental work. Work at this level also involves attending conferences, serving on committees, and maintenance of working relations with professional and administrative employees concerned

with the restoration program. It may also involve occasional lectures to outside groups and to staff members of other field stations within the geographic areas served by the clinic.

Supervision received

Work is carried out under general administrative supervision. Incumbents at this level may report to a director of professional services or directly to the station director.

Knowledges and abilities required

Performance of work at this level requires a high degree of originality, resourcefulness, ingenuity, and sound judgment to resolve the wide variety of problems encountered in directing the activities of a restoration clinic.

To run a clinic effectively, a GS-10 restoration technician must be able to meet and deal with the Clinic Director or Manager, physicians, surgeons, manufacturers' representatives, community leaders, veterans groups, and foreign visitors. He must be adept in conducting educational activities for the clinic; this includes assigning work for training purposes, giving lectures, and conducting seminars.

RESTORATION TECHNICIAN (GENERAL), GS-0664-11

Nature and variety of work

At this level are positions which involve responsibility for organizing and operating a restoration clinic which provides a full range of restoration services (ear inserts, artificial eyes, and facial and body restorations) when the scope and complexity of the work of the clinic, the personal responsibilities and contributions of the incumbent and his recognized leadership in the field combine to create a position of exceptional complexity and responsibility.

The basic responsibility for organizing and operating a restoration clinic and the supervisory and administrative duties involved are similar to those described at GS-10. However, when a working situation which involves a maximum of variety and complexity of restoration cases treated combines with a situation in which the supervisor of the clinic assumes an exceptional range of responsibilities and is a recognized leader in contributing to the materials and techniques of the field, the position meets the criteria for this GS-11 level.

A maximum variety and complexity of restoration cases would be represented by a regular and significant incidence of many types of the unusually difficult cases described at the GS-9 level. An exceptional range of personal responsibilities would involve such things as personal performance of restoration work in a variety of types of exceptional cases which present novel problems of technique and materials; recurring consultation with surgeons prior to surgery in cases which will present difficult problems of restoration; and direction and performance of a substantial amount of experimental and developmental work in restoration materials and

techniques. Leadership in contributing to the materials and techniques of the field would be represented by contributions which have been recognized and adopted by others as significant improvements in techniques of restoration. It may also be represented by the fact that the individual receives referrals from other clinics of exceptionally difficult cases because of recognition of his expertness.

Supervision received

As at GS-10, work is carried out under the general administrative supervision of the director of professional services or the station director.

Knowledges and abilities required

In addition to knowledges and abilities required at the GS-10 level, performance of work at this level requires an authority in the field who is an expert in conducting experimental and developmental work on a systematic basis.