

SBSCS | SAUDI BILLING SYSTEM CODING STANDARDS

Version 3
October 2025

About

Version**V3****Date published****October
2025**

The private health insurance market in Saudi Arabia is regulated by the Council of Health Insurance (CHI). To support the market, one of CHI's strategic aims is to provide a standardized code set for billing interventions that providers submit to health insurers. The following is a description of all healthcare services rendered in an ambulatory, secondary, or tertiary environment that shall be coded and billed:

1. Outpatient Medical Services
2. Admitted Care Medical Services
3. Consultation & Rounding Services
4. Dental Services
5. Laboratory & Pathology Services
6. Radiology and Imaging Services
7. Ambulance & Transportation Services
8. Mortuary Services
9. Emergency Medical Services (EMS)
10. Room & Board

SPECIAL ACKNOWLEDGEMENT

Dr. Shabab Al Ghamdi - Secretary General - Council of Health Insurance

PROJECT LEADS

Dr. Wail Yar, CHI
Susan E Young, CHI
Nasser Albuwi, CHI
Fawaz Al Omran, CHI
Faizah Jamalallail, CHI

CONSULTANTS

Heather Grain, SELAT
Anna Coote, SELAT

CONTRIBUTORS

Ahmed Alhamalawy, SELAT
Radi Hamad, SELAT
Safaa S. Eissa, SELAT
Muath AlQasemy, SELAT
Abdulaziz Ibrahim, SELAT
Manal Ali, SELAT
Rawan Faqiri, SELAT
Shahad Almadani, SELAT
Ebtehal Aldokhi, SELAT
Latifah Alrzeen, SELAT
Haytham Ibrahim, SELAT
Ayman Magdi, SELAT
Mohamed AbdelKhalek, SELAT
Ahmed Moustafa, SELAT

Copyright and Disclaimer

© Council of Health Insurance, KSA. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, mechanical, electronic, photocopying, recording, or otherwise, without the prior written permission of the publisher. CHI is a governmental sector registered in the Kingdom of Saudi Arabia CHI Tower King Fahd Rd, Al Malqa, Riyadh 11564

While every reasonable care has been taken to ensure the accuracy of the information within this publication, CHI makes no warranty or guarantee that the information herein is error free and thus will bear no responsibility for the results of the uses of this document.

Address all inquiries to the Council of Health Insurance
(cchi-bs@chi.gov.sa)

Acknowledgment

The Saudi Billing System coding standards (SBSCS) are based on the Australian Consortium for Classification Development (2017) *Australian Coding Standards (ACS) for the International Statistical Classification of Diseases and Related Health Problems, Tenth Revision, Australian Modification (ICD-10- AM) and Australian Classification of Health Interventions (ACHI)*, both 10th Edition. Sydney: Publisher: Independent Hospital and Aged Care Pricing Authority.

Table of contents

About.....	2
Acknowledgment	4
Table of contents	5
GLOSSARY OF TERMS.....	7
INTRODUCTION	9
SECTION 1 – GENERAL STANDARDS.....	12
SBSCS 3000 Unlisted codes.....	12
SBSCS 3010 General guidelines for procedures for non-admitted patients	14
SBSCS 3011 Bilateral procedures	15
SBSCS 3012 Anaesthesia	16
SECTION 2 – DENTAL SERVICES	18
GENERAL CONVENTIONS FOR DENTAL CODING.....	18
ORAL MEDICINE AND DIAGNOSIS.....	20
SBSCS 4000 Examination and diagnostics.....	20
SBSCS 4001 Diagnostic models	21
PREVENTIVE.....	22
SBSCS 4005 Preventive procedures	22
DENTAL ANAESTHESIOLOGY	24
SBSCS 4010 Dental anesthesiology.....	24
PERIODONTICS.....	26
SBSCS 4020 Periodontal therapy	26
SBSCS 4021 Guided tissue regeneration.....	27
RESTORATIVE.....	29
SBSCS 4030 Restoration	29
ENDODONTICS	31
SBSCS 4040 Pulp capping.....	31
SBSCS 4041 Pulpotomy	32
SBSCS 4042 Root canal treatment.....	32
DENTAL IMPLANTS.....	36
SBSCS 4050 Intraoral osseointegrated implants.....	36
SBSCS 4051 Partial dentures implant supported.....	36
REMOVABLE PROSTHODONTICS	39
SBSCS 4060 Dentures	39
SBSCS 4061 Appliances for diagnosed snoring and obstructive sleep apnoea	40
PEDODONTICS	42
SBSCS 4070 Space maintainer.....	42
ORTHODONTICS.....	43
SBSCS 4080 Comprehensive orthodontic exam.....	43
SBSCS 4081 Sequential plastic aligners.....	44
ORAL AND MAXILOFACIAL SURGERY.....	45
SBSCS 4090 Alveolar osseous procedure	45
SBSCS 4091 Repair of wound.....	45
SBSCS 4092 Excision of lesion.....	46
SECTION 3 – IMAGING SERVICES	47
SBSCS 5000 Imaging procedures for non-admitted care	47
SBSCS 5020 Digital subtraction angiography and Digital subtraction selective.....	47
SBSCS 5030 Diagnostic ultrasound of the eye	50
SECTION 4 – LABORATORY AND PATHOLOGY SERVICES	51
ESSENTIAL TEST PANELS.....	51
CLINICAL PATHOLOGY AND URINALYSIS.....	52
CHEMISTRY.....	53
SBSCS 6000 Biochemical measurements	53

SBSCS 6001 Urinalysis	53
SBSCS 6002 Drug and chemical toxicology	54
SBSCS 6003 Test panels	55
MICROBIOLOGY	56
SBSCS 6010 Examination & culture procedures	56
SBSCS 6011 Isolation and detection procedures	56
SBSCS 6012 Smears and antimicrobial susceptibility	57
HAEMATOLOGY	58
SBSCS 6020 Blood and cell count	58
SBSCS 6021 Coagulation	59
SBSCS 6022 Immunology and serology	59
SBSCS 6023 Blood bank	60
MOLECULAR DIAGNOSTICS	61
SBSCS 6030 Genetic testing and sequencing	61
SBSCS 6031 HLA typing	62
SBSCS 6032 Multianalyte and other molecular assays	63
CLINICAL PATHOLOGY	65
SBSCS 6040 Cytology	65
SBSCS 6041 Histology	66
SBSCS 6042 Cytogenetics	67
SBSCS 6043 In vivo and other pathology procedures	67
ASSISTED REPRODUCTION	69
SBSCS 6050 Female fertility	69
SBSCS 6051 Male fertility	69
SECTION 5 – AMBULANCE AND TRANSPORT SERVICES	71
SBSCS 7000 Emergency road transport	71
SBSCS 7001 Emergency air transport	72
SBSCS 7002 Non-emergency transportation	73
SECTION 6 – EMERGENCY MEDICAL SERVICES	74
SBSCS 8001 Ambulance services	74
SECTION 7 – KSA SERVICE CODES	76
SBSCS 9000 Consultations	76
SBSCS 9010 Telemedicine	77
SBSCS 9011 Homecare services	78
SBSCS 9012 Cardiac catheterization lab	80
SBSCS 9013 COVID–19 packages	80
SBSCS 9014 Room and board	82
SBSCS 9015 Room upgrade	83
SBSCS 9016 Labour and delivery room	84
SECTION 8 – MORTUARY SERVICES	85
SBSCS 9050 Mortuary preparation	85
SBSCS 9051 Mortuary transportation	85
SECTION 9 REHABILITATION SERVICES	87
SBSCS 9020 Rehabilitation packages	87

List of Tables

Table 1: Unlisted codes in SBS V3.0, by SBS chapter	10
Table 2: Tooth numbering system, permanent teeth	14
Table 3: Tooth numbering system, primary teeth	15
Table 4: COVID-19 diagnosis codes	79
Table 5: COVID-19 admitted patient care codes	80

GLOSSARY OF TERMS

Additional diagnosis: A condition or complaint either co-existing with the principal diagnosis or arising during the episode of admitted patient care, episode of residential care, or attendance at a healthcare establishment.

Note for coding: the additional diagnosis is represented by a code.

Admitted care: services provided to patients who undergo a formal admission process in a hospital

Advanced Life Support:

Acronym: ALS

Advanced life support (ALS) is a set of life-saving techniques and skills that go beyond basic life support (BLS) to help with breathing, circulation, and ventilation. ALS is performed by healthcare providers who have undergone more extensive training.

Ambulatory: See *Non-admitted patient service*

Basic life support:

Acronym: BLS

An intervention is provided to achieve preliminary preservation or restoration of life.

Clinician: the treating medical officer or person responsible for the patient's care.

Note for coders: A clinician may be a doctor, surgeon, or others responsible for special care, such as midwives, nurses, or allied health professionals.

Note for coders: To assign a code associated with a particular clinician's documentation, the documented information shall be appropriate to the clinician's discipline.

Dental Service:-Non-Inpatient service provided by a dentist or dental specialty unit.

Emergency ambulance service: an ambulance supplier providing immediate care to a Basic Life Support (BLS) or Advanced Life Support (ALS) service in response to an emergency call.

Emergency service:

Acronym: EMS. Ambulance services or paramedic services

Emergency service that provides urgent pre-hospital treatment and stabilisation for illness and injuries and transport to definitive care.

Encounter: single visit to a specific service, including associated diagnostic and procedural services, for example a visit to the Emergency Department, or to a specialist doctor or clinic.

Episode of care: Period of time when a condition is active.

Note for coders: An episode of care includes a period of specific acute disease which might include multiple visits or service events, for example, an episode of care for a fracture could involve initial review in an emergency, surgery to repair the fracture, and ongoing review and diagnostic services to monitor healing.

Home care service: Clinical care provided to a patient virtually or at their place of residence excluding ambulance services

Non-admitted patient service: Services where a patient is not admitted to an acute hospital bed or day stay service.

Not elsewhere classified

Acronym: NEC

An expression used in the context of a warning to classification users that specified variants of the listed procedures or conditions may appear in other parts of the classification.

Note to coders: Codes including 'NEC' within their description are only to be assigned when the user lacks the information necessary to assign the procedural term to a more specific code.

Not otherwise specified:

Acronym: NOS

Also known as "unspecified" or "unqualified".

Outpatient Clinic: Organizational arrangement based upon clinical specialties providing appointment-based consultation, procedures, treatment, or other services where there is no hospital bed occupied.

Outpatient clinic service: any examination, consultation, treatment, or other service provided in an outpatient clinic.

Outpatient visit: Interaction between a patient and clinician in an outpatient clinic on a single day and timeslot.

Panel: common group of tests measuring different substances at the same time from one specimen

Principle diagnosis:

For admitted care (inpatient, day case), the principal diagnosis is:

The diagnosis established after the study to be chiefly responsible for occasioning an encounter in:

- admitted patient care, or
- residential care or
- attendance at the health care establishment for a service

For non-admitted care, the principal diagnosis is:

1. The disease, condition or injury which is the reason for the attendance for outpatient treatment or observation
2. The first documented disease, condition or injury (where more than one is documented) which is the reason for attendance for outpatient treatment or observation

Note for coders: Where a complication arises due to treatment in non-admitted care, the Principal Diagnosis is the reason for treatment or observation, with the complication/s coded as Additional Diagnosis/es.

Rehabilitation Program: A group of rehabilitation services provided with a specific goal over a period of time in an ambulatory care environment.

Rehabilitation service: Provision of a therapeutic intervention aimed at improving function.

Note for coding: services may be provided in a rehabilitation program or as a single encounter.

Service provided: healthcare intervention or investigation performed at an encounter or in a program.

Unlisted procedure: services that have not been specifically defined in the current SBS list of codes.

Note for coding: There is a specific set of unlisted codes for various categories of medications as well as one unlisted code for medical devices.

Visit: See Encounter

INTRODUCTION

The Saudi Billing System includes the following classification standards:

- The International Statistical Classification of Diseases and Related Health Problems, Tenth Revision, Australian Modification (ICD-10-AM)
- The Saudi Billing System (SBS) procedure codes
- The Saudi Billing System Coding Standards (SBSCS)
- Australian Coding Standards (ACS)
- The Saudi Food and Drug Authority -GTIN - for Medications and Herbals/Vitamins
- The Saudi Food and Drug Authority -GMDN -for Medical Devices and Consumables.

As of the 1st January 2020, Saudi Arabia mandated the use of the 10th Edition of ICD-10-AM/ACHI/ACS. SBS is built on the Australian classification ICD-10-AM and ACHI, but differs from the Australian system in two ways:

1. New procedure/intervention codes have been added with:
 - The addition of a Laboratory and Pathology chapter, an Emergency Services chapter, a Mortuary chapter, a KSA Service Code chapter, a Transport Services chapter, and a Rehabilitation chapter
 - Extensive unilateral and bilateral splits.
2. SBS is intended for both admitted and non-admitted care. Non-admitted care includes hospital outpatient visits, office-based specialist physician visits, emergency department visits, home health care, and primary care.

The SBS V3.0 Coding Standards is an update and replacement of the previously released "Standards and Guidelines of CCHI Billing System V2.0", released March 2023 and implemented 25th January 2024, and shall be used in conjunction with the Australian Coding Standards.

The level of detail in these standards reflects the assumption that users of the document will have had training in abstracting relevant information from clinical records and in the structure of ICD-10-AM and SBS.

The clinical record shall be the primary source of information for the coding of both admitted care and non-admitted cases. If a clinical record is inadequate for complete, accurate coding, the clinical coder shall seek more information from the clinician. A joint effort between the Clinician, Clinical Coder and Clinical Documentation Improvement Specialist is essential to achieve complete and accurate documentation, code assignment, and reporting of diagnoses and procedures.

In the Dental SBS list of codes, the codes are flagged as applicable to either admitted care, non-admitted care, or both.

Basic structure and principles of SBS procedure codes

The Saudi Billing System (SBS) is a modification of the Australian Classification of Health Interventions (ACHI) in ICD-10-AM, 10th edition. The purpose of the SBS is to standardise data for submission of insurance claims and morbidity analysis and mandated reporting. The classification uses a hierarchical structure with the following axes:

- First level – anatomical site axis
- Second level – procedure type axis
- Third level – block axis

ACHI codes have been modified for the SBS to allow the inclusion of additional codes (including laboratory and pathology, ambulance and transport services, rehabilitation services, service codes or billing services) and further splits on unilateral/ bilateral procedures. SBS retains the same core 7-digit code as ACHI with a two-digit extension where greater specificity has been added to an ACHI code. If there are no modifications to the ACHI code, the two-digit extension will be -00.

39012-00-00

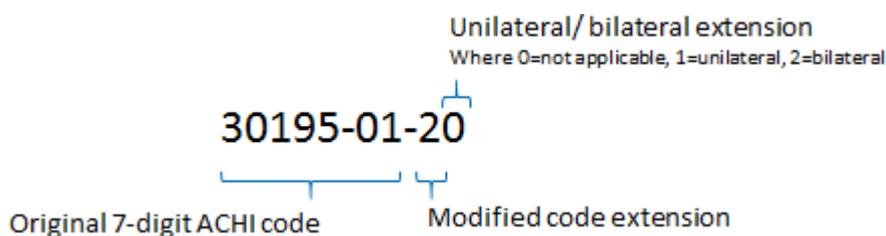
Original 7-digit ACHI code

Non-modified code extension

Examples of ACHI codes without modifications:

39012-00-00 Burr holes

The SBS Procedure codes relate to ACHI 10th Edition codes as follows:



Examples of codes without a unilateral/ bilateral extension are as follows:

30195-01-10 Curettage of lesion of skin, 1 to 14 lesions

30195-01-20 Curettage of lesion of skin, 15 or more lesions

Examples of codes with a unilateral/ bilateral extension are as follows:

55030-00-21 Ophthalmic biometry by ultrasound echography, with intraocular lens power calculation, unilateral

55030-00-22 Ophthalmic biometry by ultrasound echography, with intraocular lens power calculation, bilateral

How to use this document

This document is to be used in conjunction with the Australian Coding Standards (ACS), 10th Edition. The ACS 10th Edition standards have been extended in this document to include areas that ACHI does not cover (e.g., laboratory and pathology, ambulance and transport, rehabilitation services, service codes, and mortuary), or to extend the standards to non-admitted services, which are not included in the ACS.

Given that it is a supplement to the ACS, the SBS Coding Standards are only provided for:

- Procedures that are specifically for non-admitted patients (such as many of the dental procedures), OR
- Procedures that apply to admitted and/or non-admitted patients that are not in the ACS (including laboratory and pathology, ambulance and transport services, evaluation and management interventions, emergency medical services, and mortuary services).

Where there are no separate coding standards in this document for procedures that may be classified as admitted or non-admitted, such as dialysis, radiotherapy, and chemotherapy, the standards for non-admitted patients are the same as for same-day admitted patients.

In this document, the standards are arranged by section. Additional information may be available in the glossary or the introduction.

The term 'clinician' is used throughout the document and refers to treating physicians, but may also refer to midwives, nurses, and allied health professionals. In order to assign a code associated with a particular clinician's documentation, the documented information shall be appropriate to the clinician's discipline.

SBS V3.0 includes additional codes to those in V2.0, including non-billable codes. Coders shall take care not to miss these additional codes that are required to be coded.

An Appendix A **Clinical Explanations** has been added to the Tabular List

An Appendix B – **Billing Instructions** has been added to the Tabular List and applies to SBS Chapters 21 to 26, and Chapter 6.

SECTION 1 – GENERAL STANDARDS

SBSCS 3000 Unlisted codes

Description

Unlisted codes are reserved for services that have not been defined in the current SBS list of codes (see glossary)

There is a specific set of unlisted codes for various categories of medications as well as one unlisted code for medical devices. For more information regarding these unlisted codes, refer to CHI's *Guidelines for Mapping Provider Service Lists to Standard Code Sets*

Multiple unlisted codes are available for use in more than one SBS chapter, including:

- Dental
- Imaging services
- Laboratory and pathology
- Ambulance and Transportation services
- KSA Service codes
- No chapter assignment

Rationale

Unlisted codes help expedite and finalize the coding, billing and reimbursement process where an unlisted code is a more accurate representation of the care provided than the term "unspecified". The unlisted codes are to be used for reporting of specific, known services or procedures for which no other code is applicable. Such procedures or services may result from advances in medical science, including new procedures, new technology, and new devices. Analysis of unlisted codes will aid in identifying areas for future code development or areas in which education and or guidance may be provided where there is an existing code.

Rules

- 1.1 Use an unlisted code where it is the only option for reporting a service or a procedure.
- 1.2 Use Unlisted Ambulatory Service code 99999-99-99 only in cases where the performed service description does not match any existing SBS code description and does not fit into any of the other Unlisted Code categories.
- 1.3 Describe the actual services provided where an unlisted code is submitted on a claim.
- 1.4 Do not use SBS unlisted codes to report medications or medical devices and consumables.

Unlisted Codes

Table 1 contains the unlisted codes by SBS chapter and block.

Table 1: Unlisted codes in SBS V3.0, by SBS chapter

SBS code	Long description	Block	Block name
Chapter 6: Dental Services			
97089-00-10	Unlisted oral medicine/ oral pathology procedure	452	Other dental diagnostic services
97179-00-10	Unlisted preventive dental procedure	455	Other preventative dental services
97399-00-10	Unlisted oral surgery procedure	461	Other dental surgical procedure
97459-00-10	Unlisted restorative or endodontic procedure	464	Other endodontic service
97789-00-10	Unlisted prosthodontic procedure	477	Other prosthodontic service
97879-00-10	Unlisted orthodontic procedure	483	Other orthodontic service
97989-00-10	Unlisted adjunctive dental service	490	Miscellaneous dental services
Chapter 20: Imaging Services			
99999-99-92	Unlisted imaging procedure	2016	Imaging services
Chapter 21: Laboratory and Pathology			
73050-39-70	Unlisted chemistry procedure	2680	Miscellaneous chemistry testing
73050-60-60	Unlisted Immunoassay detection with direct visual observation	3030	Immunofluorescent and immunoassay
73050-61-60	Unlisted microbiology procedure	3020	General, routine, and miscellaneous
73100-27-21	Unlisted assay for Virus Antibodies	3154	Viral antibody testing
73100-09-80	Unlisted Haematology procedure	3800	Miscellaneous haematology testing
73100-18-20	Unlisted antigen delayed type hypersensitivity (DTH) test	3801	Allergy and immunology testing
73100-22-00	Unlisted assay for Fungus Antibodies	3050	Fungal antibody testing
73100-25-50	Unlisted assay for Protozoa Antibodies	3153	Parasitic antibody testing
73150-01-20	Unlisted urinalysis procedure	3810	Urinalysis
73200-03-60	Unlisted cytopathology procedure	4013	Miscellaneous cytopathology
73200-06-30	Unlisted cytogenetic study	4022	Cyto9genetics chromosome analysis and interpretation
73200-10-60	Unlisted surgical pathology procedure (histo-diagnostic procedure)	4016	Surgical pathology and special stains
73250-03-80	Unlisted blood bank procedure (transfusion procedure)	3809	Special and modified blood products
73300-03-70	Unlisted Quantitative Therapeutic Drug Test	6003	Miscellaneous drug testing
73350-06-00	Unlisted molecular diagnostic procedure	6055	General molecular genetic procedure and testing
73400-00-40	Unlisted in vivo laboratory procedure	7006	Prenatal testing
73400-01-50	Unlisted clinical pathology procedure	7008	Unlisted reproductive procedures
73400-05-10	Unlisted assisted reproduction procedure (male or female)	7008	Unlisted reproductive procedures
Chapter 22: Ambulance and transportation services			
83500-00-80	Unlisted ambulance service	7009	Emergency
Chapter 23: KSA Service Codes			
83700-00-00	Unlisted services yet to be defined	8012	Unlisted

SBSCS 3010 General guidelines for procedures for non-admitted patients

Introduction

SBS Coding Standards are provided for procedures that are:

- specifically for non-admitted patients or
- for procedures that apply to admitted and/or non-admitted patients that are not covered by the ACS (laboratory and pathology, ambulance and transport services, evaluation and management interventions, emergency medical services, rehabilitation services, and mortuary services).

Description

In ambulatory settings, a **procedure** is a medical service or a minor surgical intervention. It includes diagnostic imaging and laboratory tests. It excludes drugs and medical supplies, such as walking aids or dressings.

Rationales

The SBS Coding Standards for procedures for non-admitted patients are different from those for admitted patients because they include procedures that would not normally be coded for admitted patients. Procedures for non-admitted patients are assigned codes because the codes are the basis of billing for the episode of care.

The assignment of codes to an episode of care has financial implications; hence assignment of codes must be based on clear documentation by a clinician.

The hierarchy for coding procedures and services ensures that the procedure/service matches the diagnosis for which it was performed.

Drugs and medical supplies used during a procedure or service are an integral component of the procedure/service and are included in the cost of providing the procedure/service.

Rules

1. Apply the ACS where there are no separate SBS Coding Standards for procedures that may be administered for admitted or non-admitted patients, such as dialysis, radiotherapy, and chemotherapy.
2. For non-admitted patients, SBS Standards take precedence over the ACHI standards.
3. For admitted patients only, ACHI standards apply except for Standards in Chapters 21 - 26.
4. When coding procedures for non-admitted patients, select the procedure or service that accurately describes the service performed. Where documentation is inadequate, the coder shall consult with the clinician before assigning a code.
5. Use the following hierarchy when sequencing the codes for procedures for non-admitted patients:
 - Procedure performed for the treatment of the principal diagnosis,
 - Procedure performed for treatment of any additional diagnosis,
 - Diagnostic/exploratory procedure related to the principal diagnosis,
 - Diagnostic/exploratory procedure related to any additional diagnosis.

6. Assign Chapter 20 procedure codes (which are not coded for admitted patients) for non-admitted patients, for example:
 - Doppler recordings,
 - X-rays,
 - Electromyography,
 - Electrocardiography.
7. Assign anaesthesia codes where anaesthesia is used in a non-admitted setting. Include the American Society of Anesthesiologists (ASA) Physical Status Classification code for all anaesthesia codes. See SBSCS 3012
8. Do not assign a code for drugs and medical supplies, such as walking aids or dressings. There are no codes for these physical items. Drugs and medical supplies are coded with GTIN and GMDN codes.
9. The Tabular List of Procedures contains inclusion and exclusion notes, and instructions (see, see also, code also, etc.). These instructions shall be followed, except where the standards in this document overrule these instructions.

Clinical documentation

A service or procedure shall be documented in the clinical record by a clinician before it can be assigned a code.

SBSCS 3011 Bilateral procedures

Description

Bilateral procedures are those which involve the same organ/structure on different sides of the body at the same operative episode.

Note that documentation of "left and right" by a clinician does not always indicate a bilateral organ, for example surgery on "left and right" tongue.

Rules

1. Procedures with separate unilateral/ bilateral codes

SBS provides many separate codes for unilateral/ bilateral procedures where the procedure may be performed on one or both organs/ structures. For example:

- Probing of lacrimal passages,
- Ear toilet,
- Myringotomy,
- Ophthalmological examination,
- Incision of eyelid,
- Magnetic resonance imaging of breast, with contrast medium,
- Radiography of clavicle,
- Removal of intraocular lens.

Where a code is found in the SBS for a unilateral or a bilateral procedure, assign the appropriate code.

2. Inherently bilateral procedures

There are procedures that are 'pseudo-bilateral', which are not explicitly described as bilateral

in SBS. They include diagnostic or therapeutic interventions which have one entry point but affect bilateral structures, usually vessels, for example, coronary angiography or tonsillectomy.

Where a procedure is inherently bilateral, assign the code once.

3. Procedures with no code option for bilateral

Where a procedure does not have a unilateral/bilateral option, and the procedure is performed bilaterally, assign the code twice.

SBSCS 3012 Anaesthesia

Descriptions

General anaesthesia. 92514-XX-00[1910] *General anaesthesia* includes intravenous anaesthesia, inhalational anaesthesia or a combination of both.

Sedation The distinction between sedation and general anaesthesia is often unclear from clinical documentation. For the purposes of classification, code **92515-XX-00 [1910]** *Sedation* may be assigned where the anaesthetic is administered as per general anaesthesia (i.e. intravenous or inhalational or both) and there is no documentation of the use of an artificial airway, such as an endotracheal tube, laryngeal mask (e.g. LM3, LMA4), pharyngeal mask (e.g. PM3) or Guedel airway.

Local anaesthesia. 92513-XX-00 [1909] *Infiltration of local anaesthetic* is assigned for administration of local anaesthetic, where the effect of the anaesthesia is at localised tissue level.

ASA scores. Based on the American Society of Anesthesiologists (ASA) Physical Status Classification, coding anaesthesia requires a two-character extension to the 5-digit code which represents the patient's ASA score.

Table 2: Anaesthesia status

First character:

ASA class	Description
1	A normal healthy patient
2	A patient with mild systemic disease
3	Patient with severe systemic disease that limits activity
4	Patient with severe systemic disease that is a constant threat to life
5	A moribund patient who is not expected to survive longer than 24 hours without surgical intervention
6	A declared brain-dead patient whose organs are being removed for donor purposes
9	No documentation of ASA score

Second character:

Emergency modifier	Character	Description
E	0	Procedure being performed as an emergency
	9	Nonemergency or not known

Rules

1. For non-admitted patients, all anaesthesia is coded.
2. Assign the code once for each different anaesthetic used for each encounter, including General anaesthesia or sedation, local anaesthesia, regional nerve blocks and neuraxial blocks.
3. Assign an ASA code for each type of anaesthesia.
4. Where there is no documentation of ASA score or the emergency modifier is not indicated, filler digits of '9' shall be assigned for the 6th and 7th digits.
5. The 8th and 9th digits for anaesthesia shall be -00

SECTION 2 – DENTAL SERVICES

In this section, general conventions applicable to Dental services (SBS Chapter 6) are included, followed by dental specialty standards.

GENERAL CONVENTIONS FOR DENTAL CODING

Code the problem as a primary diagnosis if known. If the diagnosis is not known, then code the symptom as a principal diagnosis.

When a procedure has been discontinued for any reason before completion, the assigned code shall indicate the stage at which the procedure was stopped, and a code for discontinued service shall be assigned to provide an opportunity for the procedure to be repeated if medically necessary.

The tooth number(s) shall be recorded with every dental procedure where applicable. Tooth number shall be documented by the clinician in HIS/EMR and interfaced for the claims submission to NPHIES.

Notes on tooth numbering are listed in this section for easy reference, as they apply to all dental subspecialties.

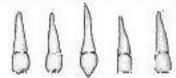
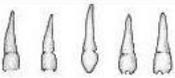
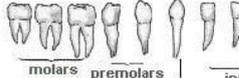
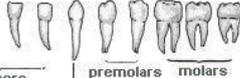
Table 2: Tooth numbering system, permanent teeth

11 Upper right permanent central incisor	31 Lower left permanent central incisor
12 Upper right permanent lateral incisor	32 Lower left permanent lateral incisor
13 Upper right permanent canine	33 Lower left permanent canine
14 Upper right permanent 1st premolar	34 Lower left permanent 1st premolar
15 Upper right permanent 2nd premolar	35 Lower left permanent 2nd premolar
16 Upper right permanent 1st molar	36 Lower left permanent 1st molar
17 Upper right permanent 2nd molar	37 Lower left permanent 2nd molar
18 Upper right permanent 3rd molar	38 Lower left permanent 3rd molar
21 Upper left permanent central incisor	41 Lower right permanent central incisor
22 Upper left permanent lateral incisor	42 Lower right permanent lateral incisor
23 Upper left permanent canine	43 Lower right permanent canine
24 Upper left permanent 1st premolar	44 Lower right permanent 1st premolar
25 Upper left permanent 2nd premolar	45 Lower right permanent 2nd premolar
26 Upper left permanent 1st molar	46 Lower right permanent 1st molar
27 Upper left permanent 2nd molar	47 Lower right permanent 2nd molar
28 Upper left permanent 3rd molar	48 Lower right permanent 3rd molar

Table 3: Tooth numbering system, primary teeth

51 Upper right primary central incisor	71 Lower left primary central incisor
52 Upper right primary lateral incisor	72 Lower left primary lateral incisor
53 Upper right primary canine	73 Lower left primary canine
54 Upper right primary first molars	74 Lower left primary first molar
55 Upper right primary second molars	75 Lower left primary second molar
61 Upper left primary central incisor	81 Lower right primary central incisor
62 Upper left primary lateral incisor	82 Lower right primary lateral incisor
63 Upper left primary canine	83 Lower right primary canine
64 Upper left primary first molars	84 Lower right primary first molars
65 Upper left primary second molars	85 Lower right primary second molars

Figure 1: Numbering system FDI for adults and children

Adults		Children	
FDI two-digit tooth numbering system Teeth numbering chart for adult teeth		FDI two-digit tooth numbering system Teeth numbering chart for primary teeth	
upper right	upper left	upper right	upper left
 18 17 16 15 14 13 12 11	 21 22 23 24 25 26 27 28	 55 54 53 52 51	 61 62 63 64 65
 48 47 46 45 44 43 42 41	 31 32 33 34 35 36 37 38	 85 84 83 82 81	 71 72 73 74 75
molars premolars canines incisors canines premolars molars			
lower right	lower left	lower right	lower left

ORAL MEDICINE AND DIAGNOSIS

SBSCS 4000 Examination and diagnostics

Description

A dental exam is an examination of teeth, gums and surrounding hard and soft tissue. Depending on the type of exam provided, examinations can be divided as follows:

- **Comprehensive oral examination**
Includes a complete inspection of oral mucosa, hard and soft tissue, salivary glands and all structures present in the oral cavity.
- **Comprehensive examination and risk assessment of head and neck by a dental surgeon**
Includes a comprehensive examination and assessment of the head and neck's extraoral and intraoral tissues used for the detection and diagnosis of any disease or tissue abnormality.
This may aid in the detection of early indications of oral or tonsillar cancer, allowing for prompt diagnosis and treatment.
- **Periodic oral examination**
Comprehensive or limited oral cavity examinations are done on a periodic basis (e.g., once in 6 months or a year).
- **Limited oral examination**
A single tooth (crown, root, periodontal ligament) examination or examination of a region or affected tooth, gums, tongue, oral mucosa, palate, periodontal structures, alveolar bone, the floor of the mouth, or any other region limited to the definition of oral cavity.
- **Oral examination; post operative re-evaluation**
Post-operative examination is initiated after suture removal or any complications related to the surgery.
- **New patient**
A new dental patient is one who attends for treatment for a condition that has not previously been diagnosed with or treated during the current episode of care.
- **Repeat patient.**
A repeat dental patient is one who attends for continuation of an episode of care.

Rationale

It is important to recognize the reason for the dental visit to assign the most appropriate code. For the first dental visit, most patients will need a full mouth examination to assess the oral health state and determine the final treatment plan.

Rules

1. New patients for a full mouth examination: Assign code **97011-00-00 [450]** *Comprehensive oral examination.*
2. **97012-00-00 [450]** *Periodic oral examination* shall only be assigned if the dentist has met the patient earlier, or the patient has previously been scheduled for a later visit. Otherwise, it shall be coded as Comprehensive or Limited based on definition.
3. For emergency visits or visits where the patient has a chief complaint, where the dentist is

only focused on treating the problem area - assign **97013-00-00 [450]** *limited oral examination*.

4. **97011-00-10 [450]** *Oral examination; post operative re-evaluation*, shall be assigned when the dentist's examination is only focused on examining a previously treated area (e.g., for suture removal, or any complications related to the surgery).

Example:

A 14-year-old patient came to the clinic for the first time, clinical examination revealed good oral health.

Z01.2	Dental examination
97011-00-00 [450]	Comprehensive oral examination

SBSCS 4001 Diagnostic models

Description

Diagnostic models, also known as diagnostic casts or study models, are typically used to study the patient's jaw relation. They are useful in determining the patient's final treatment plan. Casts can be traditionally fabricated (using plaster or other materials) or digitally fabricated.

Rules

1. **97071-00-00 [452]** *Preparation of dental diagnostic cast* is assigned for the production of a model from an impression or digital data. This code covers taking the impression and the model fabrication. It does not cover the bite registration or the mounting of the model.
2. **97964-00-00 [489]** *Registration and mounting of model for occlusal analysis* is assigned where the cast or model is being used for occlusal analysis or for the fabrication of indirect tooth restoration (e.g., inlays, crowns, fixed and removal dentures, etc.).

Example:

A patient came to the dental clinic. Clinical examination revealed excessive wear and loss of vertical dimension of occlusion. Impression was taken and a diagnostic cast was fabricated to assess occlusal relation. Assign and sequence as:

Z01.2	Dental examination
97011-00-00 [450]	Comprehensive oral examination
97071-00-00 [452]	Preparation of dental diagnostic cast
97964-00-00 [489]	Registration and mounting of model for occlusal analysis

PREVENTIVE

SBSCS 4005 Preventive procedures

Introduction

Preventive dentistry can help identify problems early in children's lives before dental problems become worse or require more invasive interventions. They can also identify dental problems in adults. Services typically include promoting good dental habits, including brushing and flossing, guidance minimizing or avoiding thumb sucking, and advice on eating habits that help improve dental health. Regular teeth cleanings and oral exams usually performed every 6 months. Routine X-rays may be taken as well to help track jaw and teeth development.

Descriptions

Remineralization and cariostatic agents

The remineralization process is a natural repair mechanism to restore the minerals to the tooth. It occurs when calcium and phosphate mineral ions are redeposited within the demineralized lesion from saliva, resulting in the formation of a surface more resistant to acid dissolution. Re-mineralising agents can be broadly classified into fluorides and non-fluoride re-mineralising agents. The modes of delivery of re-mineralising agents may be dentifrices, mouth rinses, lozenges or chewing gum (Example 1).

Bleaching

The main goal of tooth bleaching or whitening is to restore the tooth's natural shine and whiteness which have diminished over time with exposure to factors that cause discoloration. It can be performed in the office (both externally and internally) or at home (externally) (Example 2).

Administration of pharmacological agent

Pharmacological agents can be administered for therapeutic reasons or to aid in dental treatment. Therapeutic drugs include antiseptics, steroids, analgesics, antimicrobials, or antifungals. Example of these agents can be administered in many routes, such as intra-arterial, enteral, intracavitary, intramuscular, intrathecal, or intravenous (Example 3).

Rationale

Fluoride is effective in protecting against tooth decay and in repairing early lesions in the teeth that can turn into cavities. As such, it is usually used as a prevention method. In some cases, it may be indicated to use mineralization substances into a carious enamel surface to interrupt the carious process and aid in the remineralization process.

Rules

1. Clear documentation of the mode of administration of preventative measure is needed to assign the appropriate code. The code shall be assigned **once** in the episode of care regardless of the number of times administered.
2. In cases where the same pharmacological agent is being administered in different entry routes, different codes shall be assigned to reflect the specific administration route used.
3. In cases where multiple pharmacological agents are administered, codes shall be added to reflect the different agents used.

Example 1:

A 7-year-old patient came to the clinic for a periodic check-up. Examination showed good oral health. The dentist performed a topical application of fluoride as part of a preventive program. Assign and sequence as:

Z01.2	Dental examination
97012-00-00 [450]	Periodic oral examination
97121-01-00 [454]	Topical application of remineralisation agent, 1 treatment

Example 2:

18-year-old female patient came to the clinic for a periodic oral evaluation. Her radiographic images are up to date, and she is interested in at-home teeth whitening as her teeth were discoloured.

K03.6	Deposits [accretions] on teeth
97012-00-00 [450]	Periodic oral examination
97119-00-00 [453]	Bleaching, home application, per arch
97926-00-00 [485]	Fabrication of mandibular or maxillary tray for self-application of medicament

Example 3:

52-year-old male patient previously diagnosed with prostate cancer was admitted for same-day chemotherapy. Intravenous (IV) cyclophosphamide was given and the patient was discharged same-day.

Z51.1	Pharmacotherapy session for neoplasm
C61	Malignant neoplasm of prostate
M8000/3	Neoplasm, malignant
96199-00-00 [1920]	Intravenous administration of pharmacological agent, antineoplastic

DENTAL ANAESTHESIOLOGY

SBSCS 4010 Dental anaesthesiology

Introduction

Several techniques can be used to administer anesthesia in the dental field. Some dental procedures are performed using one anaesthesia method, while others may be performed using a combination of two or more techniques.

The amount of anaesthesia used shall be recorded for documentation purposes. However, the codes used can only be reimbursed once regardless of the amount of anaesthesia used.

Descriptions

General anaesthesia. Dental treatment under general anaesthesia is reserved for patients whose behaviour cannot be managed by non-pharmacological (e.g., tell-show-do, positive reinforcement, voice control, distraction) or pharmacological (nitrous oxide sedation, oral sedation) techniques.

Sedation is the reduction of irritability or anxiety by administration of sedative drugs, generally to facilitate a medical, dental or diagnostic procedure. Examples of drugs which can be used for sedation include isoflurane, diethyl-ether, propofol, etomidate, ketamine, pentobarbital, lorazepam and midazolam. Sedation methods in dentistry include inhalation sedation (using nitrous oxide), and intravenous (IV, cerebral) sedation.

Local anaesthesia. Several techniques can be used to achieve local anaesthesia of the dentition and the surrounding hard and soft tissues of the maxilla and mandible. There are three main anaesthetic agents that can be used, Lidocaine, Bupivacaine, and Mepivacaine. The type of procedure to be performed as well as the location of the procedure determine the technique of anaesthesia to be used, such as:

- Infiltration: The local infiltration technique anesthetizes the terminal nerve endings of the dental plexus. This technique is indicated when an individual tooth or a specific isolated area requires anaesthesia. The procedure is performed within the direct vicinity of the site of infiltration.
- Nerve block, trigeminal & Regional block, nerve of head or neck. The nerve block anesthetizes the main branch of a specific nerve other than trigeminal nerve division, allowing treatment to be performed in the region innervated by that nerve.

ASA scores. Based on the American Society of Anesthesiologists (ASA) Physical Status Classification, coding anaesthesia requires a two-character extension which represents the patient's ASA score (see SBSCS 3012).

Rules

1. Assign the code once for each different anaesthetic used for each encounter.
2. Where both sedation and local anaesthesia are administered, assign a code for both.
3. Where other types of anaesthesia are used (e.g., infiltration, nerve blocks) they shall be coded separately.

4. Assign an ASA code for each type of anaesthesia.
5. Where there is no documentation of ASA score or the emergency modifier is not indicated, filler digits of '9' shall be assigned.

Example 1:

A patient came to the clinic for surgical extraction of partially impacted wisdom tooth #38. The patient was anxious and was put under sedation for 45 minutes. The procedure was performed under local anaesthesia, inferior alveolar nerve block. Assign and sequence as:

K01.1	Impacted teeth
97321-01-00 [458]	Surgical removal of impacted tooth; partial bony impacted tooth; per tooth
92509-99-10 [1909]	Administration of anaesthesia, trigeminal division block, regional block, nerve of head or neck, ASA 99
92515-99-00 [1910]	Sedation, ASA 99

Example 2:

A patient came to the clinic for the extraction of a non-restorable tooth #36. Nerve block was administered, and surgical extraction of the tooth was performed. Assign and sequence as:

K01.1	Impacted teeth
97321-05-00 [458]	Surgical removal of one tooth; soft tissue (not requiring removal of bone or tooth division)
92509-99-10 [1909]	Administration of anaesthesia, trigeminal division block, regional block, nerve of head or neck, ASA 99

Example 3:

62 years old male, diagnosed with pleomorphic adenoma, is admitted for total excision of parotid gland with preservation of the facial nerve. The patient has an increased risk for complications from a general anaesthesia. The procedure was performed under local or regional anaesthesia. ASA score is 3. Assign and sequence as:

D11.0	Benign neoplasm of Parotid gland
M8940/0	Pleomorphic adenoma
30250-00-00 [397]	Total excision of parotid gland with preservation of facial nerve
92509-39-00 [1909]	Regional block, nerve of head or neck, ASA 39

PERIODONTICS

SBSCS 4020 Periodontal therapy

Introduction

Periodontal diseases may be treated conservatively (non-surgically) using periodontal therapy. It aims to monitor and control periodontal conditions, without surgical interventions. Ultimately, it promotes periodontal health, preventing tooth loss.

Descriptions

Periodontal scaling and root planning consists of the removal of plaque, calculus and stains from supragingival and subgingival tooth surfaces. Root planning is the removal of cementum and dentine that is rough and/or permeated by calculus.

Periodontal maintenance visit is scheduled following periodontal therapy. It constitutes a full mouth re-evaluation and removal of plaque, supragingival and subgingival calculus and teeth polishing. However, if new or recurring periodontal disease appears then additional diagnoses and treatment shall be coded.

Periodontal surgery may occasionally be required to treat some gum diseases and disorders, such as gingivitis or periodontitis. The operation is intended to address periodontal disease and any harm it may have done by repair of harmed tissues and bones. These procedures include:

- Periodontal flaps

A periodontal flap is a section of gingiva, mucosa, or both that is surgically separated from the underlying tissues to provide for the visibility of and access to the bone and root surface. The flap also allows the gingiva to be displaced to a different location in patients with mucogingival involvement.

Periodontal flaps can be classified based on the flap position after the surgery as:

- Non-displaced flaps

Non-displaced flaps include periodontal flaps that are usually performed to gain better access for scaling and root planning, (e.g., periodontal flaps, flaps used for curettage) or for crown lengthening procedures.

- Displaced flaps

Displaced flaps include rotational and transposition flaps. A **rotation flap** is a semi-circular flap of skin and subcutaneous tissue that rotates about a pivot point into a defect. The donor site is typically repaired with wide undermining and direct, layered closure. The vector of greatest tension is directed from the pivot point outward to the defect's furthest radial point. **Transposition flaps** are generally smaller in size than advancement and rotation flaps. Transposition flaps, like all flaps, utilize tissue adjacent to the wound for reconstruction, generally offer a good colour and textural match.

Rationale

Periodontal scaling and root planning procedure can be performed in one visit or up to four visits. Special care shall be taken with regard to the visit or encounter number to assign the appropriate code.

Assigning a code for periodontal flap procedure depends either on the flap position after surgery, or on the number of teeth, or the area treated.

Rules

1. For the first visit for an episode of care to this dental clinic, assign **97281-00-10 [456]** *Generalized scaling and root planning; severe plaque and calculus deposition, first appointment.*
2. For subsequent visits assign **97115-00-00 [453]** *Removal of calculus from surfaces of teeth – subsequent appointment.*
3. When a flap procedure is being performed on multiple teeth in one quadrant, assign **97232-00-10 [456]** *Periodontal flap procedure, per quadrant.*
4. . When open flap procedure is recorded assign **97271-01-00 [456]** *Open flap or curettage surgery; per tooth or implant.*
5. Only assign **97238-00-10 [456]** *Periodontal flap procedure for crown lengthening, per tooth* when the reason for the procedure (crown lengthening) is documented.

Example:

A patient came to the clinic presenting with inflamed gingival tissue around an implant replacing tooth #26, bleeding upon probing, and deep pocket depths (4mm). Scaling and debridement as treatment for inflammation of an implant were done. Open flap procedure was also done. Assign and sequence as:

K05.5	Other periodontal disease
97271-01-00 [456]	Open flap or curettage surgery; per tooth or implant
97281-00-60 [456]	Scaling and debridement in the presence of inflammation or mucositis of an implant, including cleaning of the implant surfaces, without flap entry and closure; per implant

SBSCS 4021 Guided tissue regeneration

Descriptions

Guided tissue regeneration is a surgical procedure that specifically aims to regenerate the periodontal tissues when the periodontal disease is advanced. It is a method used to repair periodontal defects so that a tooth, or set of teeth, has more support and stability. In addition to this procedure a resorbable or non-resorbable artificial membrane may be used to aid in the osseous regeneration.

Non-resorbable membranes are bio-inert and require a second surgical procedure to remove them after bone regeneration is complete.

Resorbable membranes are naturally biodegradable and have varying resorption rates.

Rules

1. Tissue regeneration does not include flap entry and closure, and shall be coded separately when documented.
2. If documented, a separate code shall be assigned for resorbable membrane procedure

Example 1:

A patient came to the clinic with erythema, throbbing and radiating pain, and swelling of the gingiva over teeth #36 and #37. Examination showed tooth mobility. The patient was diagnosed with Acute periodontitis and incision and drainage of the abscess were performed. Assign and sequence as:

K05.2 Acute periodontitis
97213-00-00 [456] Treatment of acute periodontal infection

Example 2:

A patient came to the clinic with pain and swelling of the gingiva over teeth #33 and #34. Examination showed tooth mobility. The patient was diagnosed with Acute apical periodontitis related to tooth# 33. An endodontic treatment of the tooth was performed:

K04.4 Acute apical periodontitis of pulpal origin
97420-01-00 [462] Root canal treatment, anterior (includes extirpation of pulp, chemomechanical preparation, obturation)

RESTORATIVE

SBSCS 4030 Restoration

Introduction

Dental restoration, dental fillings, or simply fillings are treatments used to restore the function, integrity, and morphology of missing tooth structure resulting from caries or external trauma.

Dental restorative materials that are used for filling tooth cavities or treating dental caries are classified into four categories: amalgam, resin-based composites, glass ionomer, and resin-modified glass ionomer.

Descriptions

The tooth contains 4 layers from outside to inside:

- First layer Enamel (crown),
- Second layer cementum (root),
- Third layer (dentine)
- Fourth layer (pulp).

Rules

1. When coding restorative treatment operative procedures, the extent of caries needs to be identified assign:
 - K02.0 Caries limited to enamel or,
 - K02.1 Caries of dentine or,
 - K02.2 Caries of cementum or,
 - K02 Caries with pulp exposure,
 and assign only one code for the deepest layer.
2. Dental restoration starts with excavation of caries, etching, and bonding, and then dental restoration is applied. All four steps are included in one SBS procedure code.
3. In the case of one surface restoration, assign
 - **97521-01-00 [466]** *Adhesive restoration (e.g., compomer, composite, glass ionomer, polymer glass, resin composite), 1 surface, direct or*
 - **97511- 01-00 [465]** *Metallic restoration of tooth, 1 surface, direct, based on the material used for restoration.*
4. For each additional surface, assign
 - **97521-02-00 [466]** *Adhesive restoration (e.g., compomer, composite, glass ionomer, polymer glass, resin composite), each additional surface, direct or*
 - **7511-02-00 [465]** *Metallic restoration of tooth, each additional surface, direct,*
 according to the number of surfaces and material used.

Example:

Basic oral evaluation history: A patient who had not been seen by the clinic before did not report any complaints, but requested a "complete dental check-up".

The doctor performed a complete head and neck exam, including both extra and intra-oral soft and hard tissues, evaluated the TMD and found that lymph nodes were within normal limits. An orthopantomogram and 4 bitewing radiographs were taken, then positive findings appeared on the bitewing, the patient has class II in tooth #15. Caries excavated up to dentine; etching, and bonding were performed followed by a final restoration for a three surfaces resin composite for premolar followed by finishing and polishing the restoration. Assign and sequence as:

Z01.2	Dental examination
K02.1	Caries of dentine
97011-00-00 [450]	Comprehensive oral examination
57960-00-00 [1967]	Orthopantomography
97022-00-20 [451] x 4	Intraoral bitewing radiography, per exposure
97521-01-10 [466]	Adhesive restoration (e.g., compomer, composite glass ionomer, polymer glass, resin composite), 1 surface, direct
97521-02-00 [466] x 2	Adhesive restoration (e.g., compomer, composite, glass ionomer, polymer glass, resin composite), each additional surface, direct

ENDODONTICS

SBSCS 4040 Pulp capping

Descriptions

Two different types of pulp capping are in use. These methods are used when the pulp is visibly exposed (vital pulp exposure) due to caries, trauma, or iatrogenic insults such as accidental exposure during tooth preparation or caries removal.

In **direct pulp capping**, the protective dressing is placed directly over an exposed pulp

In **indirect pulp capping**, a thin layer of softened dentin, which, if removed, would expose the pulp, is left in place, and the protective dressing is placed on top.

Rule

1. Assign SBS code
 - **97411-00-10 [462]** *Direct pulp capping* or
 - **97411-01-00 [462]** *Indirect pulp capping* appropriately and
 - ICD-10 code K02 *Caries with pulp exposure*.

Example:

A 16-year-old male patient scheduled for routine dental treatment, reported discomfort associated with physical stimulation on the permanent mandibular left first molar. No history of spontaneous pulpal pain was reported. The status of the pulp and periradicular tissues were carefully evaluated.

The clinical examination revealed a normal appearance of adjacent gingival tissue and a small enamel caries lesion. A slight colour change was noticed through occlusal enamel. Bitewing radiograph revealed a deep distal caries lesion. No radiolucency at the periapical regions or thickness of the periodontal spaces were noticed in periapical radiograph. Pulp sensitivity compatible with a reversible stage of inflammation was confirmed with thermal tests. The pain quickly disappeared after the cold stimulus.

Assign and sequence code as follows:

First visit:

Z01.2	Dental examination
K02	Caries with pulp exposure
97013-00-00 [450]	Limited oral examination
97022-00-20 [451]	Intraoral bitewing radiography, per exposure
97411-01-00 [462]	Indirect pulp capping

Second visit after 60 days:

97022-00-20 [451]	Intraoral bitewing radiography, per exposure
97521-01-10 [466]	Adhesive restoration (e.g., compomer, composite, glass ionomer, polymer glass, resin composite), 1 surface, direct

SBSCS 4041 Pulpotomy

Descriptions

- **Pulpotomy for immature permanent dentition**

An immature permanent tooth is a young/newly erupted permanent tooth with incomplete root apex formation. After a permanent tooth emerges in the mouth, it usually takes three more years for the root development to complete.

The treatment for immature permanent teeth with pulp exposure due to caries or trauma gives evidence of extensive coronal pulpitis and also requires an emergency procedure for permanent mature teeth until root canal treatment can be accomplished.

- **Pulpotomy for primary dentition**

A pulpotomy is performed in a primary tooth when caries removal results in a pulp exposure in a tooth with a normal pulp or reversible pulpitis or after a traumatic pulp exposure and there is no radiographic sign of infection or pathological resorption

- **Partial pulpotomy**

Partial pulpotomy, rather than direct pulp capping or complete pulpotomy, is the treatment of choice following traumatic or carious pulp exposure in immature permanent teeth.

A partial pulpotomy is indicated in a young permanent tooth for a carious pulp exposure in which the pulpal bleeding is controlled within several minutes. The tooth must be vital, with a diagnosis of normal pulp or reversible pulpitis.

Rule

1. Assign SBS code

- **97414-00-10 [462]** *Pulpotomy for immature permanent, primary dentition or*
- **97414- 01-00 [462]** *Partial pulpotomy, permanent tooth, and*
- ICD10 code K02 *Caries with pulp exposure.*

SBSCS 4042 Root canal treatment

Descriptions

Root canal treatment (endodontics) is a dental procedure used to treat infection at the center of a tooth, and it is performed in 3 stages:

Stage 1: Extirpation of pulp – involves the removal of the dead nerve and the gross infected pulp.

Stage 2: Bio Mechanical preparation (BMP) of root canal – this involves further cleaning and shaping of the canals.

Stage 3: Obturation – this is the last stage in the completion of treatment which involves filling the canals with an inert filling material.

Pulp extirpation is part of a root canal treatment that is performed to save a tooth where the innermost part (the pulp) has become badly infected. The pulp and bacteria inside the pulp chamber are removed and the infection is cleaned till the pain is relieved and the patient is asymptomatic.

Number of roots. Generally, incisors, canines, and premolars have one root except for the maxillary upper first premolar with two roots, whereas molars will have two or three roots.

Removal of root filling, per canal is a Procedure to remove root canal filling material from the tooth followed by cleaning, shaping and obturation of the canals.

Exploration or negotiation of calcified root canal. Calcified root canals occur when calcium gets deposited in the tooth's canal. The tooth canal is the space in the middle of its root. In healthy teeth, this space contains pulp tissue, which is mainly made up of nerve and vascular tissue. Calcification causes the canal space to shrink. The cause of calcification varies, may be due to prolonged infection, trauma, etc.

Interim therapeutic root filling. This term is used to describe a restoration that has been placed in a tooth after the previous restoration, cracks and/or caries have all been removed at the commencement of endodontic treatment (i.e., the "investigation" stage of treatment).

Obturation of resorption defect or perforation. Resorption is defined as a condition associated with either a physiological or a pathological process resulting in loss of dentin, cementum, or bone. Perforation, on the other hand, is a hole that occurs in the root canal space of a tooth. Obturation is the technical term for a method of filling and sealing a tooth with root canal material.

Rules

1. Only one SBS code is assigned, per tooth, which includes extirpation of pulp, chemomechanical preparation, and obturation.
2. For the operative procedure of root canal treatment, based on the type of tooth, assign:
 - **97420-01-00 [462]** *Root canal treatment, anterior or*
 - **97420-02-00 [462]** *Root canal treatment, premolar or*
 - **97420-03-00 [462]** *Root canal treatment, molar and*
 - ICD-10 code **K04.0** *Pulpitis*.
3. ICD-10 code **K02.5** *Caries with pulp exposure* cannot be assigned unless the pulp was exposed during the removal of caries and the pulp test did not indicate irreversible pulpitis.
4. In cases where only extirpation of pulp or debridement of root canal is done, assign **97419-00-10 [462]** *Extirpation of pulp or debridement of root canal(s), emergency or palliative procedure*.
5. For molars and upper premolars involving more than one root assign **97419-10-00 [462]** *Extirpation of pulp or debridement of root canal(s), emergency or palliative procedure* for any additional root canal (beyond the usual number of roots per tooth).
6. If the dentist extirpates the pulp, and continues with chemomechanical preparation, and obturation for the canal, assign
 - **97420-01-00 [462]** *Root canal treatment, anterior or*
 - **97420-02-00 [462]** *Root canal treatment, premolar or*
 - **97420-03-00 [462]** *Root canal treatment, molar*
7. ICD-10-AM code shall be **K04.0** *Pulpitis*.

8. ICD-10-AM code, **K02.5** *Caries with pulp exposure*, cannot be assigned unless the pulp was exposed during the removal of caries, and the pulp test did not indicate irreversible pulpitis.

Example 1:

35- year-old male patient complaining of pain in upper left quadrant. A limited oral evaluation was done. Bitewing radiographic images and periapical radiographic images were taken and evaluated. After evaluation with pulp test a definitive diagnosis was made – Irreversible pulpitis in tooth #25. Root canal treatment was performed followed by a final restoration (resin-based composite – three surfaces, premolar)

Z01.2	Dental examination
K04.0	Pulpitis
97061-00-00 [452]	Pulp vitality test, per tooth
97013-00-00 [450]	Limited oral examination
97022-00-20 [451]	Intraoral bitewing radiography, per exposure
97022-00-10 [451]	Intraoral periapical radiography, per exposure
97420-02-00 [462]	Root canal treatment, premolar (includes extirpation of pulp, chemomechanical preparation, obturation)
97521-01-10 [466]	Adhesive restoration (e.g., compomer, composite, glass ionomer, polymer glass, resin composite), one surface, direct

Example 2:

30- year-old patient complaining of sharp pain in the lower right quadrant. A limited oral evaluation was done. Bitewing radiographic images were taken and evaluated. After the pulp vitality test has been carried out, a definitive diagnosis was made - Irreversible pulpitis in tooth #46. Pulp extirpation as an emergency procedure was performed to relieve the pain followed by a temporary restoration.

Z01.2	Dental examination
K04.0	Pulpitis
97061-00-00 [452]	Pulp vitality test, per tooth
97013-00-00 [450]	Limited oral examination
97022-00-20 [451]	Intraoral bitewing radiography, per exposure
97419-00-10 [462]	Extirpation of pulp or debridement of root canal(s), emergency or palliative procedure

Example 3:

30- year-old patient complaining of sharp pain in the lower right quadrant. A limited oral evaluation was done. Bitewing radiographic images were taken and evaluated. After the pulp vitality test has been carried out, a definitive diagnosis was made – Irreversible pulpitis in tooth #46, pulp extirpation as an emergency procedure was performed to relieve the pain then the patient opted for root canal treatment, so the dentist continued the Root canal treatment followed by a final restoration (resin-based composite – three surfaces, premolar)

Z01.2	Dental examination
K04.0	Pulpitis
97061-00-00 [452]	Pulp vitality test, per tooth
97013-00-00 [450]	Limited oral examination
97022-00-20 [451]	Intraoral bitewing radiography, per exposure
97420-03-00 [462]	Root canal treatment, molar (includes extirpation of pulp, chemomechanical preparation, obturation)
97521-01-10 [466]	Adhesive restoration (e.g., compomer, composite, glass ionomer, polymer glass, resin composite), one

DENTAL IMPLANTS

SBSCS 4050 Intraoral osseointegrated implants

Descriptions

Intraoral osseointegrated implant insertion is a one- or two-stage procedure which involves the implantation of an implant, used to support dentures or artificial tooth crowns, constructed of titanium or other biocompatible material.

A one-stage endosseous implant involves surgical insertion of an implant into the bone of the maxilla or mandible.

The first stage of a two-stage endosseous implant (or fixture) is placed as a meticulous subperiosteal procedure, under local or general anaesthesia. The mucosa is closed over the implant for a period of time.

The second stage of a two-stage endosseous implant is performed three to six months later and involves the application of a superstructure (abutment) to the previously buried implant.

Rules

1. Assign **45846-00-00 [400]** Insertion of one-stage endosseous implant; per implant.
2. Assign **45845-00-10 [400]** Insertion of intraoral osseointegrated dental implant; first stage.
3. Assign **45847-00-10 [400]** Insertion of intraoral osseointegrated dental implant; second stage.
4. The number of implants for any individual patient may vary from one to ten or more, each implant shall be reported separately.

Example:

A 35-year-old female patient has lost her upper right canine a year ago. She would like to replace her missing tooth. After clinical evaluation the dentist placed a one-stage implant.

K08.1	Loss of teeth due to accident, extraction or local periodontal disease
45846-00-00 [400]	Insertion of one-stage endosseous implant; per implant
92513-99-00 [1909]	Infiltration of local anaesthetic, ASA 99

SBSCS 4051 Partial dentures implant supported

Descriptions

Prosthesis with removable resin base attached to implants, per arch. A removable prosthesis is one that carries artificial teeth on a resin base supported by the implants to which it is attached. This prosthesis is designed for self-removal.

Prosthesis with fixed metal frame attached to implants. A fixed prosthesis carrying artificial teeth on a cast or milled metal frame, supported by the implants to which it is attached and not

designed for self-removal. This is inclusive of the sealing of the access to the abutment screws.

Prosthesis with removable metal frame attached to implants; per arch. A removable prosthesis is one that carries artificial teeth on a cast, wrought or milled metal frame, supported by the implants to which it is attached. This prosthesis is designed for self-removal.

Rules

1. Abutments attached to implants shall be assigned code:
 - **97661-00-10 [473]** *Fitting of implant abutment, custom, or*
 - **97661-01-00 [473]** *Fitting of implant abutment, pre-fabricated.*
2. Retention components within a prosthesis shall be assigned **97735-00-00 [474]** *Precision or magnetic attachment, denture.*
3. The sequencing of abutments attached to implants shall be:
 - first **97665-00-00 [473]** *Prosthesis with removable resin base attached to implants, per arch then*
 - **97661-00-00 [473]** *Fitting of implant abutment, custom, or*
 - **97661-01-00 [473]** *Fitting of implant abutment, pre-fabricated and then*
 - **97735-00-00 [474]** *Precision or magnetic attachment, denture.*
4. Abutments attached to implants shall be assigned
 - **97661-00-00 [473]** *Fitting of implant abutment, custom, or*
 - **97661-01-00 [473]** *Fitting of implant abutment, pre-fabricated.*
5. The sequencing of codes for abutments attached to implants shall be:
 - first **97666-00-00 [473]** *Prosthesis with fixed metal frame attached to implants, and*
 - **97661-00-00 [473]** *Fitting of implant abutment, custom or*
 - **97661-01-00 [473]** *Fitting of implant abutment, pre-fabricated*
6. Abutments for prosthesis with removable metal frame attached to implants shall be assigned:
 - **97661-00-10 [473]** *Fitting of implant abutment, custom, or*
 - **97661-01-00 [473]** *Fitting of implant abutment, pre-fabricated;*
 - retention components within prosthesis shall be assigned **97735-00-00 [474]** *Precision or magnetic attachment, denture.*
7. The sequencing for prosthesis with removable metal frame attached to implants shall be:
 - first **97667-00-00 [473]** *Prosthesis with removable metal frame attached to implants; per arch then*
 - **97661-00-00 [473]** *Fitting of implant abutment, custom or*
 - **97661-01-00 [473]** *Fitting of implant abutment, pre-fabricated and then*
 - **97735-00-00 [474]** *Precision or magnetic attachment, denture*

Example:

A 64-year-old female patient came to the clinic for final prosthesis after healing of the implant. A prosthesis with removable resin base attached to implants was fabricated. A pre-fabricated abutment was used tooth #16 and magnetic attachment.

K08.1	Loss of teeth due to accident, extraction or local periodontal disease
97665-00-00 [473]	Prosthesis with removable resin base attached to implants, per arch
97661-01-00 [473]	Fitting of implant abutment, pre-fabricated
97735-00-00 [474]	Precision or magnetic attachment, denture

REMOVABLE PROSTHODONTICS

SBSCS 4060 Dentures

Descriptions

Interim complete denture: This is a temporary prosthesis for the use of a limited time, to be replaced by a definitive prosthesis.

Definitive complete denture: A complete denture is a removable acrylic replacement for teeth, soft tissue, and bone lost in an entire dental arch.

Rules

1. When an interim complete denture is fabricated for the **maxilla**, assign **97713-00-20 [474]** *Interim complete maxillary denture.*
2. When an interim complete denture is fabricated for the **mandible**, assign **97714-00-10 [474]** *Interim complete mandibular denture.*
3. When an interim complete denture is fabricated for **both jaws (maxillary and mandibular)** assign the combination code **97715-00-10 [474]** *Interim complete maxillary and mandibular dentures.*
4. When a complete denture is fabricated for the **maxilla**, assign **97711-00-00 [474]** *Removable complete denture; maxillary*
5. When a complete denture is fabricated for the **mandible**, assign **97712-00-00 [474]** *Removable complete denture; mandibular*
6. When a complete denture is fabricated for **both jaws (maxillary and mandibular)** assign the combination code **97719-00-00 [474]** *Removable complete denture, maxillary and mandibular.*

Classification Note

The codes below are used to identify each step of the fabrication of a partial or complete dentures; therefore these codes shall be assigned for documentation purposes. However, for reimbursement purposes, these steps are included in the main procedure code and may not be billed. The main procedure code shall be assigned at the end of treatment (**denture insertion visit**).

All of the seven codes listed below are solely for documentation purpose and are non-billable:

- **97719-01-10 [474] Primary impression for maxilla /mandible for denture processing**
 - A negative replica of oral tissues and teeth. Includes impressions for Overdentures, immediate, interim, partial, and complete removable dentures.
- **97719-01-80 [474] Tooth preparation for crown/ FPD**
 - Removal of all defects and provide necessary protection to the pulp along with necessary tooth preparation to fit the crown/FPD.
- **97719-01-20 [474] Border moulding**
 - Shaping of the border areas of an impression tray by functional or manual manipulation of the tissue adjacent to the borders to duplicate the contour and size of the vestibule.

- **97719-01-30 [474] Final impression for maxilla / mandible**
 - A negative replica of oral tissues and teeth. Includes impressions for Overdentures, immediate, interim, partial, and complete removable dentures.
- **97719-01-40 [474] Face bow transfer**
 - A facebow is an instrument that records the relationship of the maxilla to the hinge axis of rotation of the mandible. It allows a maxillary cast to be placed in an equivalent relationship on the articulator.
- **97719-01-50 [474] Bite registration**
 - An impression of the occlusal relationship of the maxilla and mandible.
- **97719-01-60 [474] Try in of the upper / lower denture**
 - A wax try-in of the denture teeth is an important step in the fabricating process. This allows the dentist to confirm fit and function and allows the patient to preview their new smile before it is finished.
- **97719-01-70 [474] Denture insertion**
 - Delivery of denture.

Example 1:

A 78-year-old edentulous female patient wants to replace her missing teeth. A removable complete denture for both arches were fabricated.

K08.1	Loss of teeth due to accident, extraction or local periodontal disease
97719-00-00 [474]	Removable complete denture, maxillary and mandibular

Example 2:

A 79-year-old edentulous male patient came to the clinic for the try in of his upper and lower complete dentures.

K08.1	Loss of teeth due to accident, extraction or local periodontal disease
97719-01-60 [474]	Try in of the upper / lower denture

SBSCS 4061 Appliances for diagnosed snoring and obstructive sleep apnoea

Rules

1. Code 97985-00-00 [490] *Oral appliance for diagnosed snoring and obstructive sleep apnoea* includes:
 - Mandibular Advancement Device (MAD)
 - Tongue-Stabilizing Device (TSD)
 - Rapid Maxillary Expansion (RME)
2. For single arch oral appliance, the code shall be assigned once.
3. For bi-maxillary oral appliance (both jaws), assign the code twice.

Example:

A 35-year-old male patient who has been diagnosed with snoring came to the clinic as a referral to fabricate an oral appliance to help open his airway while sleeping. A bi-maxillary oral appliance was fabricated for the patient.

R06.5 Mouth breathing

97985-00-00 [490] Oral appliance for snoring and obstructive sleep apnoea

97985-00-00 [490] Oral appliance for snoring and obstructive sleep apnoea

PEDODONTICS

SBSCS 4070 Space maintainer

Descriptions

A **space maintainer** is an appliance used to maintain the space of a primary tooth lost due to decay or injury before its permanent replacement has developed or is ready to erupt. It maintains the space until the permanent tooth emerges. Without the space maintainer, the permanent teeth can shift into the space created by the loss of the baby tooth and could cause tooth crowding.

A **distal shoe** is a unique type of space maintainer

Rules

1. Space maintainer codes **98003-00-11 [490]** *Fixed space maintainer placement, unilateral*, and **98003-00-12 [490]** *Fixed space maintainer placement; bilateral*, only include preparation and placement of the appliance.
2. A regular code for a space maintainer placement does not accurately describe a distal shoe placement, as it extends sub gingivally and distally to guide the eruption of the first permanent molar. Assign **98006-00-10 [490]** *Distal shoe appliance placement*.
3. Re-cementation or removal of a space maintainer is assigned codes: **98003-01-10 [490]** *Space maintainer re-cementation* and **98003-02-10** *Removal of fixed space maintainer*.

Example:

A 7 - year - old female presents with extracted tooth #85. The patient was advised to have a distal shoe fixed space maintainer on the right side. Impression was taken, and the space maintainer delivered.

K08.1 Loss of teeth due to accident, extraction or local periodontal disease

98006-00-10 [490] Distal shoe appliance placement

ORTHODONTICS

SBSCS 4080 Comprehensive orthodontic exam

Descriptions

An **orthodontic examination** is the first step in orthodontic treatment, preparing the patient for any possible intervention.

Code **97011-00-20 [450]** *Comprehensive oral examination for orthodontic treatment* includes:

- Photographic records, intraoral
- Photographic records, extraoral
- Orthopantomography
- Cephalometry/cephalography
- Preparation of dental diagnostic cast
- Pantographic tracing
- Radiographs.

Rules

1. None of the codes listed above may be assigned when a code for a comprehensive orthodontic exam is assigned.
2. **97879-00-10 [483]** *Unlisted orthodontic procedure* shall only be assigned when no other code is available for the given specific description.

Example 1:

A 24 – year – old male with Class II malocclusion presents for orthodontic treatment. An orthodontic examination was done for this session.

K07.4 Malocclusion, unspecified

97011-00-20 [450] Comprehensive oral examination for orthodontic treatment

Example 2:

A 27-year-old male presents to the clinic with a chief complaint of a sharp edge on one of his sequential plastic aligners to treat his crowded teeth. Polishing was done to that edge.

K07.3 Anomalies of tooth position

97879-00-10 [483] Unlisted orthodontic procedure

SBSCS 4081 Sequential plastic aligners

Descriptions

Sequential plastic aligners are orthodontic treatments that move the teeth closer to their desired position.

Rule

1. When sequential plastic aligners are used to treat a portion of the dentition, a suitable limited orthodontic treatment code shall be applied first.

Example:

A 24-year-old male with crowded teeth presents for orthodontic treatment. The examination was done in the previous session, and the patient accepted to be treated using sequential plastic aligners in maxilla.

K07.3 Anomalies of tooth position

97881-00-20 [483] Limited orthodontic treatment of the adolescent dentition

97825-00-00 [479] Insertion of sequential plastic aligners; per arch

ORAL AND MAXILOFACIAL SURGERY

SBSCS 4090 Alveolar osseous procedure

Description

The **alveolar osseous procedure** is aimed at acquiring access to the tooth roots to remove tartar and remove pockets in the alveolar bone covering the teeth.

Alveolar osseous procedure code **97233-00-10 [456]** *Alveolar osseous procedure; per tooth* includes:

- Flap procedures
- Gingivectomy.

Rules

1. Codes for flap procedures and gingivectomy shall not be assigned with **97233-00-10** *Alveolar osseous procedure; per tooth*.
2. Where an alveolar osseous procedure has stopped for any reason before completion, assign a code for the stage completed and code **97999-00-10** *Discontinued service*.

Example:

A 32-year-old male with 7 mm periodontal pocket depth in teeth #35 and #36 presents for the alveolar osseous procedure. The patient was not cooperative, moving and unstable during the session at the flap step. The dentist had to stop the operation and reschedule the appointment.

K05.3 Chronic periodontitis

97232-00-10 [456] Periodontal flap procedure, per quadrant

97999-00-10 [490] Discontinued service

SBSCS 4091 Repair of wound

Descriptions

Repair of wound process is the restoration of structure and function of injured or diseased tissues. In SBS, coding repair of wound is based on the size of the repaired area, and is classified as follows:

Small – less than 2.5 cm:

- **30032-00-10 [1635]** *Repair of wound of skin and subcutaneous tissue of face or neck, superficial, small*
- **30035-00-10 [1635]** *Repair of wound of skin and subcutaneous tissue of face or neck, involving soft tissue, small*

Medium – 2.6 cm to 15.0 cm:

- **30032-00-20 [1635]** *Repair of wound of skin and subcutaneous tissue of face or neck, superficial, medium*
- **30035-00-20 [1635]** *Repair of wound of skin and subcutaneous tissue of face or*

neck, involving soft tissue, medium

Large – 15.1 cm or larger:

- **30032-00-30 [1635]** *Repair of wound of skin and subcutaneous tissue of face or neck, superficial, large*
- **30035-00-30 [1635]** *Repair of wound of skin and subcutaneous tissue of face or neck, involving soft tissue, large*

Rule

1. Repair of wound codes are included in the surgical procedure code. Repair of wound codes shall not to be used for closure of dental surgical incisions.

Example:

A 22-year-old male presents with a 3 cm open wound on his lower lip due to a fall. The wound size was around 3 cm, sutured under infiltration anaesthesia, and instructions were given.

S01.51	Open wound of lip
W19	Unspecified fall
30032-00-20 [1635]	Repair of wound of skin and subcutaneous tissue of face or neck, superficial, medium
92513-99-00 [1909]	Infiltration of local anaesthetic, ASA 99

SBSCS 4092 Excision of lesion

Description

Excision of lesion is a procedure that removes a lesion of tissue or any abnormal growth which can be either benign or malignant.

Rules

1. A code for biopsy is not assigned with codes **31205-00-xx [1620]** *Excision of lesion of skin and subcutaneous tissue of other site, small/medium/large.*
2. A biopsy of the same site as an excision is included in the code for excision

Example:

A 34-year-old male was admitted for surgical excision of a small basal cell adenocarcinomas on his tongue performed under general anaesthesia. Biopsy was taken from the margins to ensure the area was cancer free.

C02.1	Malignant neoplasm of border of tongue
M8098/3	Adenoid basal carcinoma
31205-00-10 [1620]	Excision of lesion of skin and subcutaneous tissue of another site, small
92514-99-00 [1910]	General anaesthesia, ASA 99

SECTION 3 – IMAGING SERVICES

SBSCS 5000 Imaging procedures for non-admitted care

Descriptions

Medical imaging, also known as radiology, is the field of medicine in which medical professionals recreate various images of parts of the body for diagnostic or treatment purposes. Medical imaging procedures include non-invasive tests that allow clinicians to diagnose injuries and diseases without being intrusive.

Radiology uses imaging to diagnose and treat diseases within the body.

Ultrasound is a non-invasive imaging test that shows structures inside the body using high-intensity sound waves. Healthcare providers use ultrasound exams for several purposes, including during pregnancy, for diagnosing conditions and for image guidance during certain procedures.

Tomography is an x-ray technique in which shadows of superimposed structures are blurred out by a moving x-ray tube.

Computerized tomography (CT) is an x-ray imaging procedure in which a narrow beam of x-rays is aimed at a patient and quickly rotated around the body, producing signals that are processed by the machine's computer to generate cross-sectional images, or "slices."

CT angiography is a type of medical test that combines a CT scan with an injection of a special dye to produce pictures of blood vessels and tissues in a part of the body. The dye is injected through an intravenous (IV) line started in the arm or hand.

Imaging services in in-patient cases, imaging services are not usually coded, as they are routine services performed for most patients or are components of another procedure.

Rules

1. For non-admitted patients, all imaging is coded.
2. Codes for ACHI Chapter 20 *Imaging services* (blocks [1940] to [2016]) and block [451] *Dental radiological examination and interpretation* are assigned for admitted patients if they meet the criteria for ACS 0042 *Procedures Normally not Coded*.

SBSCS 5020 Digital subtraction angiography and Digital subtraction selective

Descriptions

Digital subtraction angiography (DSA) is a procedure that provides a fluoroscopy-guided image of the blood vessels (both arteries and veins) in a bony or dense soft tissue environment to detect a problem with blood flow. The procedure involves inserting a catheter (a small, thin tube) into an artery in the leg and passing it up to the blood vessels.

A contrast dye is injected through the catheter, and X-ray images of the blood vessels are taken. DSA can be used to explore the head and neck, thorax, abdomen, and upper and lower limbs region.

Digital subtraction selective (arteriography and venography) is similar to the DSA. However, in some cases, a digital subtraction angiography is not needed entirely, and a specific artery or vein would be selected to be assessed by a practitioner. Data acquisition is the first integral step in image formation. It is an acquisition of raw imaging data of a body and contains the original information about captured physical quantities describing internal aspects of the body. This information becomes the primary subject for all subsequent steps of image processing.

Digital Subtraction Angiography should not be confused with Digital Subtraction Selective since they both have a specific medical goal. For example, angiography is more inclusive, while arteriography or venography focuses on particular arteries or veins. Furthermore, clinical coders must take care to code the site of the procedure and the number of data acquisition runs, also known as DAQ, before choosing the correct code

Rule

1. If the documentation is unclear, assign **59970-01-00 [1998]** *Digital subtraction angiography, not elsewhere classified*. Assign also **60503-00-00 [1999]** *Fluoroscopy* when DSA is documented.

Example 1:

A 65-years-old patient previously diagnosed with the peripheral vascular disease was admitted for a digital subtraction Angiography (two runs).

I25.9	Chronic ischemic heart disease, unspecified
60048-00-00 [1996]	Digital subtraction angiography of lower limb, <= 3 data acquisition runs, unilateral
60503-00-00 [1999]	Fluoroscopy

Example 2:

A 54-years-old female patient previously diagnosed with Raynaud's Syndrome was admitted for venography using the digital subtraction method in the femoral vein of the leg.

I73.00	Raynaud's syndrome without gangrene.
60072-00-00 [1998]	Digital subtraction selective arteriography or venography, 1 vessel
60503-00-00 [1999]	Fluoroscopy

Example 3:

A 56-years-old patient complaining of claudication (pain on walking), an ulcer on the left foot. Digital subtraction angiography was performed, which showed a complete occlusion (blockage) of the left superficial femoral artery just above the knee joint. Blood flow was restored to the foot following open transluminal balloon angioplasty and stenting using a self-presenting Nitinol stent performed under general anaesthesia.

I74.3	Embolism and thrombosis of arteries of lower extremities
L98.4	Non-pressure chronic ulcer of lower limb, not elsewhere classified
60060-00-00 [1997]	Digital subtraction angiography of aorta and lower limb, <= 3 data acquisition runs, unilateral
60503-00-00 [1999]	Fluoroscopy
35309-08-00 [754]	Open transluminal balloon angioplasty with stenting, a single stent
92514-99-00 [1910]	General anaesthesia, ASA 99

SBSCS 5030 Diagnostic ultrasound of the eye

Definitions

Ophthalmic ultrasound, also known as ocular echography, is the use of high–frequency sound waves to examine the eye structure and diagnose disorders using:

1. **A-scan**, or amplitude scan, - a method used for ocular assessment via ultrasound. The tear film is an adequate agent for acoustic transmission, thus absolving the need for ultrasound coupling jelly. In addition, a single sound beam is sent from the transducer in the A-scan method.
- **B-scan**, or brightness scan, is another method used for ocular assessment via ultrasound. It can be performed directly on the anesthetized eye. In trauma cases or children, B-scan can be performed over the eyelid with coupling jelly.

Rules

1. Where both the B-scan and the quantitative A-scans are being performed during the same encounter, clinical coders shall assign **55030-00-41/42[1940]** *Ophthalmic ultrasound, diagnostic, B-scan and quantitative A-scan, unilateral/bilateral*.

Example:

A 61-year-old male presents with retinal detachment symptoms in his left eye (experiences flashes of light and a sudden loss of peripheral vision). A B–scan ultrasound imaging with a non–qualitative A–scan superimposed confirmed retinal detachment.

H33.2 Serous retinal detachment

55030-00-51 [1940] Ophthalmic ultrasound, diagnostic, B-scan (with or without superimposed nonquantitative A-scan), unilateral.

SECTION 4 – LABORATORY AND PATHOLOGY SERVICES

Introduction

Laboratory and pathology codes (SBS Chapter 21) are a sub-set of the SBS classification and includes descriptions, guidelines and descriptions of laboratory and pathology procedures and services. The use of codes simplifies the reporting of procedures and services. In the classification, the term **Procedure** is used to describe services, including diagnostic tests.

Pathology and laboratory procedure codes describe services to evaluate specimens (e.g., blood, body fluid, tissue).

Generally, pathology and laboratory specimens are prepared, screened, and/or tested by laboratory personnel with a pathologist assuming responsibility for the integrity of the results generated by the laboratory.

Codes in this section include some codes requiring patient contact or evaluation and management provided directly by the pathologist.

ESSENTIAL TEST PANELS

Descriptions

Laboratory Essential panels or chemistry panels are groups of tests that are ordered together.

Evocative/suppression testing refers to a class of tests performed where one substance is measured both before and after the administration of another substance to determine if the levels are stimulated ("evocative") or suppressed. They are most performed in the evaluation of possible endocrine disorders.

Rules

1. The panel code shall be assigned when all individual components in the panel have been performed.
2. The code or codes for individual tests shall be assigned if any test defined as part of the panel is not performed.
3. Two or more panel codes that include any of the same constituent tests performed from the same patient collection shall not be assigned.
4. If a group of tests overlaps two or more panels, assign the code for the panel that incorporates the greater number of tests
5. Assign codes for each remaining test.

CLINICAL PATHOLOGY AND URINALYSIS

Descriptions

A clinical pathology consultation is a service performed by a pathologist in response to a request from the attending physician regarding test results requiring additional medical interpretive judgment.

Urinalysis involves checking the appearance, concentration and content of urine. It is used to detect and manage a wide range of disorders, such as urinary tract infections, kidney disease and diabetes. The tests can be done for Routine Quantitative or Qualitative analysis, with or without microscopy or for screening the bacterial growth etc.

Rules

1. Code **73150-00-00 [4001]** *Limited Clinical Pathology Consultation* shall be assigned for pharmacokinetic consultations regarding therapeutic drug levels.
2. Code **73150-01-20 [4001]** *Unlisted urinalysis procedure* shall be assigned for limited consultation not requiring review of the patient's history and medical records.
3. Code **73150-00-11 [4001]** shall be assigned for a comprehensive consultation related to more complex diagnostic problems and requires review of the patient's history and medical records.
4. Code **73150-00-12 [4001]** shall be assigned for a prolonged clinical pathology consultation.

CHEMISTRY

Chemistry, also known as clinical chemistry, is the testing of chemical substances and processes inside the human body. The department of clinical chemistry includes biochemical measurements, urinalysis, test panels, and drug & chemical toxicology.

SBSCS 6000 Biochemical measurements

Descriptions

Biochemical measurement is body fluid analysis to determine the levels of different chemical compounds.

Hyperthyroidism is a condition that occurs when the thyroid gland produces excess thyroid hormone

Hypothyroidism is the reduction of thyroid hormones production.

Specimen: A specimen is one or more parts taken from a system and intended to provide information on that system, or to provide a basis for a decision.

Sample: A sample is part of a specimen used for a test process

Rules

1. When more than one blood or urine specimen is documented, assign a code for each sample tested and from each source.
2. When no information is available regarding the test type: quantitative or qualitative, the test shall be coded as **quantitative**.
3. If both total thyroxine and thyroid hormone binding ratio are documented, assign the code for the free thyroxine measurement **73050-35-30 [2650]**.
4. The code for free thyroxine measurement shall not be combined with the code for total thyroxine measurement or thyroid hormone binding ratio.

Example:

A 14-year-old patient came to the clinic complaining of very little urine, fever, and swelling in the hands and feet. The doctor ordered a total protein assay for blood and urine. Results revealed elevated proteins in urine (proteinuria) which confirms the patient has kidney damage.

N28.9	Disorder of kidney and ureter, unspecified
73050-30-40 [3003]	Measurement of total protein in serum, plasma or blood
73050-30-50 [3003]	Measurement of total protein in urine

SBSCS 6001 Urinalysis

Description

Urinalysis is the identification and evaluation of different chemical compounds and components within a urine sample. The culture method may be different for urine specimens.

Rule

1. Assign the code for each urine specimen where multiple urine specimens are documented.

Example:

A 50-year-old male presents with symptoms of frequent and painful urination. The doctor ordered a urine test. The lab analyst performed a three-glass urine test and urine culture. Result revealed staphylococcus urinary tract infection (UTI)

N39.0 Urinary tract infection, site not specified

B95.8 Unspecified staphylococcus as the cause of diseases classified to other chapters

73150-00-90 [3810] Three-glass Urinalysis Test

73050-41-20 [3017] Urine culture, isolation, identification for bacteria

SBSCS 6002 Drug and chemical toxicology

Descriptions

Drug and chemical toxicology is the screening and testing for drugs and chemicals to monitor substance levels or to evaluate drug intoxication, overdose or poisoning.

Specimen validity testing is used for analysis of a urine specimen to ensure that it is consistent with normal human urine and not adulterated with chemicals.

Rules

1. Assign only one code when a **qualitative** test to detect the presence of different heavy metals is documented.
2. Assign a code for each measured heavy metal for a **quantitative** test to detect the amount of different heavy metals.
3. Where validity testing is performed in addition to other laboratory urine tests, do not code the validity testing and assign only one code for the laboratory procedure.

Example:

A patient came to the clinic for creatinine test on urine specimen, the providers performed validity testing on the sample to confirm it is not adulterated, results and other tests confirmed the patient has urinary tract obstruction.

N13.9 Obstructive and reflux uropathy, unspecified

73050-09-90 [3009] Measurement of Creatinine in other source

SBSCS 6003 Test panels

Description

A **test panel** is a group of individual laboratory tests performed together in order to determine a person's general health status. The tests are performed on a blood sample.

Rules

1. Assign a test panel code only when all tests included within the panel are documented and performed.
2. Assign individual codes for each test where only a few tests within the panel are documented.
3. If more tests are documented than those listed in the panel, assign the panel code first, followed by individual codes for each extra test performed.
4. When **two or more** test panels are documented including the same tested analytes (from the same patient specimen), code only the panel that includes the greater number of tests.

Example:

A 55-year-old female patient admitted for general health check-up. Basic metabolic panel (BMP) and comprehensive metabolic panel (CMP) are ordered by the physician.

Z00.0 General medical examination

73000-00-40 [4002] Comprehensive metabolic Panel [albumin, bilirubin, total, calcium total, carbon dioxide (bicarbonate), chloride, creatinine, glucose, phosphatase, alkaline, potassium, Protein total, sodium transferase, alanine amino (ALT) (SGPT), transferase, aspartate amino (AST) (SGOT), Urea nitrogen (BUN)]

Note: CMP panel includes a greater number of tested analytes.

MICROBIOLOGY

Microbiology is the study and testing of bacteria, parasites, viruses and other pathogens using different lab techniques for culturing, examination, and identification. The area of microbiology includes: examination & culture procedures, isolation & detection procedures, and smears & antimicrobial susceptibility.

SBSCS 6010 Examination & culture procedures

Descriptions

Examination and culture is the culturing of a specimen from any source by spreading it out on an agar under controlled conditions to observe any microbial.

A screening culture is performed often to test if the culture grows any microbes, followed by a definitive identification culture test to specifically identify the microbe.

Rules

1. Screening culture and definitive identification cultures are not performed on the same day on the same specimen, therefore code the screening culture only.
2. Assign a code for each media (agar) plate used by the lab analyst for the culture test.

Example:

A female patient admitted for suspected bacterial infection. The physician ordered a stool sample for culture and sensitivity of aerobic bacteria. The lab analyst performed the procedure on three media; however, it did not reveal any bacterial growth and the patient was discharged.

Z03.8	Observation for other suspected diseases and conditions
73050-40-20 [3029] x3	Culture and sensitivity, isolation and identification of aerobic bacteria in stool

SBSCS 6011 Isolation and detection procedures

Definition

The laboratory analyst performs **isolation methods** for a particular pathogen to identify an organism or evaluate its impact.

Rule

1. When the provider performs isolation for more than one organism, assign the code for each isolated organism.

Example:

A patient admitted to the clinic complaining of cold, cough and fever, the doctor suspected influenza and ordered a virus identification test. The lab analyst performed immunofluorescence stain virus identification using centrifuge enhanced technique. Two viruses were isolated: influenza A/H3 and influenza B.

J10.1	Influenza with other respiratory manifestations, other influenza virus identified
73050-45-30 [3022] x2	Centrifuge enhanced technique analysis of virus isolation and immunofluorescence stain identification

SBSCS 6012 Smears and antimicrobial susceptibility

Descriptions

The **smear technique** is a quick method for determination of possible infections before culture results are available. It is performed on a thin sample of blood, body fluids, or a swab.

Antimicrobial Susceptibility tests evaluate the susceptibility (sensitivity) of an isolate (e.g., bacteria, fungus) to a specific antibiotic following a separate culture procedure. This is to select suitable antibiotics and determine the proper dosage for treating an infection.

Rule

1. When the provider performs susceptibility study for multiple antimicrobial agents assign code for each tested antibiotic.

Example:

A patient admitted with bacterial meningitis. The doctor ordered antimicrobial susceptibility for Cefotaxime and Benzylpenicillin antibiotics. The lab analyst performed susceptibility study using macrobroth dilution method

G03.9	Meningitis, unspecified
73050-44-00 [3018] x2	Antimicrobe susceptibility studies by macrobroth dilution method

HAEMATOLOGY

Haematology is the study of blood to identify, diagnose, and monitor blood-related disorders. The department of haematology includes blood & cell count, coagulation, immunology & serology, and blood bank.

SBSCS 6020 Blood and cell count

Descriptions

Blood and cell count uses quantitative cell counting methods (automated or manual) and various measurements of different blood components.

Complete blood count (CBC) includes automated cell count.

Rules

1. Coders shall not assign a code for individual cell counts (e.g. WBC count) when they are included in the more comprehensive CBC test.
2. A code for manual counting shall be assigned when CBC is assigned a code.
3. Assign the code **73100-01-00 [3804]** *Manual cell count (RBC, WBC, or platelet)* for each blood cell type counted manually.

Example:

A case of chronic Systemic lupus erythematosus (SLE) on immunosuppressants present to the clinic for regular check-up. The doctor orders complete blood count (CBC) to test for white blood cell levels and other blood components. The laboratory analyst performs automated count, then counts the cell manually for confirmation.

M32.9	Systemic lupus erythematosus
73100-00-90 [3804]	Automated complete blood count (CBC)
73100-01-00 [3804]	Manual cell count (RBC, WBC, or platelet)

SBSCS 6021 Coagulation

Description

Coagulation testing provides comprehensive diagnostic testing for bleeding and clotting disorders to allow evaluation of abnormal coagulation profiles.

Rules

1. Code **73100-09-50 [3161]** *Measurement of Partial thromboplastin time from plasma or whole blood* shall not be assigned with **73100-09-60 [3161]** *Measurement of Partial thromboplastin time by plasma fractions* as this code includes the PTT test after addition of plasma fractions.
2. Assign a code for ongoing monitoring (e.g., by thrombelastography (TEG)) of coagulation and fibrinolysis in whole blood per day of service

Example:

A patient admitted to the clinic complaining of cold, cough and fever, the doctor suspected influenza and ordered a virus identification test. The lab analyst performed immunofluorescence stain virus identification using centrifuge enhanced technique. Two viruses were isolated: influenza A/H3 and influenza B.

J10.1	Influenza with other respiratory manifestations, other influenza virus identified
73050-45-30 [3022] x2	Centrifuge enhanced technique analysis of virus isolation and immunofluorescence stain identification

SBSCS 6022 Immunology and serology

Description

Immunological investigations detect and quantify auto- antibodies. Services provided aid in diagnosing and monitoring the therapeutic response for a variety of systemic autoimmune diseases (e.g. Systemic Lupus Erythematosus, Rheumatoid Arthritis).

Rule

1. Quantitative total cells count (e.g., B cells, T cells, NK cells), do not require result interpretation and therefore shall not be assigned codes **73200-03-30 [4014]**; **73200-03-40 [4014]**; **73200-03-50 [4014]** *Interpretation of flow cytometry results of XX markers* even when flow cytometry is performed.
2. All codes in this section relate to antibody detection unless antigen detection is specified. When testing bacterial antibodies, assign a code for each species or immunoglobulin class (e.g., IgG, IgM).
3. For allergy testing, assign the code for each tested antigen/allergen.

Example:

A patient present to the dermatology clinic complaining of rash due to food reaction. She had eggs, milk, and bread for breakfast. The doctor orders a food allergy test for each of these substances to measure her immune reaction for levels of immunoglobulin E (IgE) antibodies.

L27.2	Dermatitis due to ingested food
Z01.5	Diagnostic skin and sensitization tests
73100-10-10 [3801] x 2	Quantitative/Semiquantitative measurement of antibody (IgE) to allergic substance

SBSCS 6023 Blood bank

Description

Blood bank laboratory encompasses all aspects of blood transfusion and blood products including donor services, blood grouping, crossmatching for compatibility testing, RBC identification or typing, and transfusion reactions.

Rules

- Assign a code for:
 - each substance used to treat red blood cells (RBC) before testing,
 - each antibody
 - each blood unit (1 unit = 500 mL).
- Apheresis codes are not included under the laboratory chapter codes; therefore, do not assign **73250-02-70 [3809] Leukocyte Transfusion** for lymphocyte infusions or leukapheresis and use more specific codes from other chapters.

Example:

A patient requires immediate blood transfusion of 3 blood units. The laboratory analyst thaws 3 units of frozen blood to be used for transfusion.

Z51.2	Blood transfusion without reported diagnosis
73250-02-20 [3805] x 3	Thawing of frozen blood

MOLECULAR DIAGNOSTICS

Molecular diagnostic procedures are a collection of techniques used for analysis of nucleic acids (DNA or RNA) for the purpose of disease prevention or detection. This field investigates human, viral, and microbial genomes to study infectious diseases, inherited conditions, as well as cancers. The department of molecular diagnostics include genetic testing & sequencing, HLA typing, multianalyte & other molecular assays.

SBSCS 6030 Genetic testing and sequencing

Descriptions

Genetic testing and sequencing describe testing for gene variants (i.e., mutations), inherited family conditions (familial variants), full gene sequencing, and evaluation of specific changes within a gene of interest (target sequencing, expanded sequence analysis). Genomic sequencing procedures can also simultaneously examine multiple genes, or the entire exome or genome using next-generation sequencing (NGS) to *assess variants in both cancer cells (somatic) and non-cancer cells (germline)*.

The term **variant** describes a permanent change in the DNA sequence of the gene. These changes are not always pathogenic; however, most of the investigations listed in SBS aim to screen for pathogenicity. Variants are either represented by their specific intronic position on the gene (e.g., IVS3- 2A>G), *DNA change* which enlist the numerical position followed by the resulting nucleic acid change (e.g., MTHFR gene: 677C>T) or by their protein change. The majority of SBS codes describe variants by their amino acid (protein) change using a single letter amino acid code followed by the numerical position and the substituted amino acid (e.g., JAK2 gene: (V617F), Valine (V) at position 617 is replaced with Phenylalanine (F).

Examples of proteins or common diseases associated with the genes are listed either in the code description or definition section.

Rules

1. Unless otherwise specified, all the analyses conducted in the molecular diagnostic section are **qualitative** by default.
2. Code selection is specifically based on the tested gene.
3. All of the necessary analytical procedures required for testing are included in the molecular diagnostics service codes (such as cell lysis, nucleic acid extraction, stabilization, amplification, and detection) and shall not be reported separately.
4. Assign codes for any other preparatory procedures which precede cell lysis (genetic analysis of archived tumour tissue; tissue microdissection; special macroscopic dissection).
These codes shall be
 - **73200-09-50 [4021]** *Molecular analysis of archived (stored) tumour tissue,*
 - **73200-10-40 [4015]** *Examination, dissection and preparation of tissue for non microscopic analysis or*
 - **73200-10-50 [4015]** *Examination, dissection and preparation of tissue for non microscopic analysis with touch imprint cytology.*
5. Full gene sequencing codes include testing for all the variants within a gene; therefore, do not use separate variant codes unless strictly specified that the testing is for common gene variants or a specific variant of interest.

Example:

A patient presented to the clinic with a history of sickle cell disease which runs in the family. The doctor suspects she might be a carrier for the condition, so he orders genetic testing of the HBB gene for common mutations related to the sickle cell trait. The laboratory analyst investigates the patient blood sample, performing all the necessary technical steps as nucleic acid extraction, digestion, cell lysis, amplification and detection of the target gene for mutation analysis and confirms carrier status.

Z13.0	Special screening examination for diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism.
Z83.2	Family history of diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism
73350-02-60 [6006]	Haemoglobin subunit beta (HBB) gene variant analysis (e.g., HbS, HbC, HbE)

SBSCS 6031 HLA typing

Descriptions

The **human leukocyte antigen genes** (HLA), otherwise known as histocompatibility antigens are a group of genes that play an important role in the immune system. HLA typing is used for purposes of matching donors with recipients for bone marrow, cord blood, or other transplants.

The codes under this block are for tissue or HLA gene typing by molecular testing methods.

All of the necessary analytical procedures required to conduct testing are included in the molecular diagnostics service codes and shall not be assigned separately; such as cell lysis, nucleic acid extraction, stabilization, amplification, and detection.

Rules

1. Do not use HLA typing codes under the molecular diagnostic section for HLA typing by serology, instead refer to HLA codes in the Hematology section.
2. All of the necessary analytical procedures required to conduct testing are included in the molecular diagnostics service codes and shall not be assigned separately (cell lysis, nucleic acid extraction, stabilization, amplification, and detection).
3. Assign codes for any other preparatory procedures which precede cell lysis including: genetic analysis of archived tumour tissue, tissue microdissection, or special macroscopic dissection. Codes include:
 - **73200-09-50 [4021]** *Molecular analysis of archived (stored) tumour tissue,*
 - **73200-10-40 [4015]** *Examination, dissection and preparation of tissue for non microscopic analysis*
 - **73200-10-50 [4015]** *Examination, dissection and preparation of tissue for non microscopic analysis with touch imprint cytology (tIC) analysis, intraoperative (IO), frozen section consultation.*

Example:

A close relative of a patient requiring kidney transplant present to the clinic in order to get tested for tissue compatibility. The laboratory analyst receives the donor patient sample and performs low resolution assessment of the human leukocyte antigen genes (HLA) for Classes I and II at all loci utilizing direct sequencing.

Z00.5 Examination of potential donor of organ and tissue

73350-03-10 [6005] Low resolution analysis of certain loci for human leukocyte antigen genes (HLA) specific Class I loci (HLA-A, HLA-B) and Class II (HLA-DRB1)

SBSCS 6032 Multianalyte and other molecular assays

Description

Multianalyte assays report results from a panel of tests, including non-molecular biochemical markers (e.g., proteins, carbohydrates lipids) to provide an algorithmic estimation of disease recurrence, or risk score probability. These algorithms require information on gene expression, tumour size, or lymph node status to generate prognostic or predictive information about patient's transplant rejection or cancer probability, classifying it as low, intermediate, or high-risk.

Rules

1. For procedures not found under the Genetic Testing & Sequencing or HLA typing blocks, refer to the Multianalyte & Other Molecular Assays block.
2. Codes from **73350-04-40** to **73350-05-20 [6055]** describe molecular pathology procedures level 1-9, analysing single genes based on the level of technical resources and interpretive work used. These codes do not describe the tested gene or method, in which case assign **73350-06-00 [6055]** *Unlisted molecular diagnostic procedure*.
3. All of the necessary analytical procedures required to conduct Multianalyte testing (algorithmic risk assessment) are included in the service codes and shall not be assigned separately (cell lysis, nucleic acid extraction, stabilization, amplification, and detection).
4. Only assign codes for any other preparatory procedures that precede cell lysis (genetic analysis of archived tumour tissue, tissue microdissection, or special macroscopic dissection). Codes include **73200-09-50 [4021]**, **73200-10-40 [4015]** or **73200-10-50 [4015]**.
5. Do not assign codes for each protein or analyte tested when it is included in the risk assessment of technical resources and interpretive work used. Assign code **73350-06-00 [6055]** *Unlisted molecular diagnostic procedure*.

Example:

A pregnant patient has a family history of down syndrome. As a preliminary test, the doctor requests a multianalyte chromosomal abnormality risk assessment.

Z14.7 Special screening examination for congenital malformations, deformations and chromosomal abnormalities.

Z33 Pregnant state, incidental

73350-06-50 [6053] Measurement of fetal aneuploidy (trisomies 13, 18 and 21) risk score by micro assay from pregnant maternal plasma

Note: 73200-05-30 [4023] Molecular Cytogenetic Test by DNA Probe method [e.g., fluorescence in situ hybridization (FISH)] and Genome analysis by chromosomal microarray (CMA) were not assigned separately since these procedures are required to conduct risk testing.

CLINICAL PATHOLOGY

Clinical pathology is the study of disease and disease processes through analysis of body fluids by various chemical, microscopic, and serologic examinations. The department of clinical pathology includes cytology(cytopathology), histology, cytogenetics, in vivo & other pathology procedures.

SBSCS 6040 Cytology

Description

Cytology involves diagnostic techniques to examine single cell types extracted from tissues to screen for fetal abnormalities, cancers, and infectious organisms among others. Cell collection is done by exfoliation or scraping (e.g., pap smear), body fluid collection, fine-needle aspirations (FNA), or other tissue biopsy performed during routine diagnostic tests (e.g., cystoscopy, bronchoscopy).

Rules

1. Whenever pap smear results require pathologist interpretation a code shall be assigned in addition to the pap smear codes.
2. Assign code **73200-02-50 [4012]** *Analysis of fine needle aspirate cytopathology specimen for evaluation of satisfactory sample* for the **first** specimen collected for analyses from **each** specific site.
3. When several specimens are obtained from the same site, report each additional FNA collection by assigning code **73200-02-70 [4012]**.
4. If a laboratory specialist analyses, interprets, and report the results, assign one code **73200-02-60 [4012]** *Analysis of fine needle aspirate cytopathology specimen with interpretation and report for interpretation* from each anatomical site, regardless of aspirate number.

Example:

A patient present to the oncology clinic complaining from a small lump on his neck. The doctor suspects thyroid carcinoma and performs fine-needle aspirate and collects 2 biopsy samples from his thyroid. The doctor sends the sample to the lab to determine if there are enough cells present in the sample for further laboratory testing.

D44.0	Thyroid gland
M8010/3	Carcinoma NOS
73200-02-50 [4012]	Analysis of fine needle aspirate cytopathology specimen for evaluation of satisfactory sample (first evaluation, each site)
73200-02-70 [4012]	Analysis of fine needle aspirate cytopathology specimen for evaluation of satisfactory sample (Additional evaluation on same site)

SBSCS 6041 Histology

Descriptions

Histology uses a group of techniques to examine whole tissue excised during surgery to diagnose disease or to guide a treatment plan. Service examples under this block include morphometric analysis, microdissections, in situ hybridization, surgical pathology procedures, immunohistochemistry and other special histochemical stains.

Surgical specimens are assigned appropriate level (1-6) surgical pathology codes based on the service conducted.

- Level 1 involve non-microscopic examination of the specimen (e.g., by bare eye).
- Level 2 refer to both non-microscopic (gross) with microscopic examination.
- Level 3-6 require level 2 analysis in addition to increasingly complex physician work with each ascending level.

These services only include specimen collection, examination, and reporting. They do not include certain procedures like decalcification, in situ hybridization, Mohs surgery, or other Histology block procedures.

Rules

1. Code selection shall be based on the specimen. All procedures descriptors list specific specimens used for examination and are not sufficient for code selection.
2. Do not assign codes based on organ or anatomic site only.
3. Coders shall pay attention to whether examination of surgical margins was performed, presence of lymph tissue, or resection extent, to accurately assign the correct code.
4. For unlisted specimens, assign a code based on the level of work conducted by the physician.
5. If more than one specimen is tested, assign code for each tested specimen.

Example:

Patient presented to the clinic complaining of a lump on her breast. The doctor performed a lumpectomy and sent her tissue sample to the laboratory for breast cancer evaluation. The laboratory pathologist examines the sample with surgical margins and report diagnosis of fibroadenoma.

D24	Benign neoplasm of breast
M9010/0	Fibroadenoma NOS
31500-00-01 [1744]	Excision of lesion of breast, unilateral
73200-06-80 [4016]	Level 5 examination of surgical pathology specimen (e.g., Brain biopsy, meninges, tumour resection, excision of lesion)

SBSCS 6042 Cytogenetics

Description

Cytogenetics involves procedures which study chromosomes and how they relate to cell behaviour, especially during mitosis and meiosis. Common techniques are karyotyping, chromosome analysis by various banding techniques, molecular cytogenetics (e.g., fluorescent in situ hybridization (FISH), comparative genomic hybridization (CGH), and chromosomal microarray analysis (CMA)).

Rules

- 1 Coders shall assign the correct codes for number of karyotypes, cell count, banding, and resolution studies performed.
2. Based on the technique used, assign only once per study the appropriate additional code from **73200-05-80 [4022]** to **73200-06-10 [4022]**.

Example:

A mother present to the obstetrician's office for prenatal testing. Her first newborn had down syndrome. To prevent inheritance of the condition to her future baby, the doctor collects amniotic fluid and cells from the uterus for laboratory genetic testing analysis and send it to the lab. The laboratory specialist performs counting of 10 cells with 2 karyotyping and banding of chromosomes.

Z36.2	Other antenatal screening based on amniocentesis
16600-00-00 [1330]	Diagnostic amniocentesis
73200-05-10 [4022]	Amniotic Fluid chromosome analysis for genetic abnormality by 15 cell count and 1 karyotypes with banding
73200-05-80 [4022]	Additional Karyotypes to initial chromosomal analysis

SBSCS 6043 In vivo and other pathology procedures

Description

In vivo tests are performed on living subjects. In vivo tests include all pathology consultations, non-invasive transcutaneous measurements, body fluids (other than blood), collection, and cell count.

Rule

1. Code **73400-01-30 [7007]** *Collection of sputum specimen (e.g., saliva, mucus, or pus) by aerosol mist induced technique* shall only be reported as a separate procedure when performed alone and **not** as part of another procedure.

Example:

Patient presents to the clinic complaining of abnormal brown sputum, he is a current smoker. The doctor orders sputum collection by aerosol mist induced technique for diagnostic purposes.

R09.3 Abnormal sputum

Z72.0 Tobacco use, current

73400-01-30 [7007] Collection of sputum specimen (e.g., saliva, mucus, or pus) by aerosol mist induced technique

ASSISTED REPRODUCTION

Assisted reproductive technologies (ART) primarily aid in fertility treatment utilizing procedures like in vitro fertilization (IVF), intracytoplasmic sperm injection (ICSI), cryopreservation of reproductive cells or embryos, and fertility medication. The department of assisted reproduction includes female fertility and male fertility.

SBSCS 6050 Female fertility

Description

Female fertility testing uses advanced techniques to treat infertility. It involves handling, freezing, storing, and biopsy preparation of oocytes (eggs) and embryos for genetic testing. Indications for fertility testing include risk for transmission of inherited disorders (preimplantation genetic testing) or infertility concerns related to cancer therapy.

Rule

1. For oocyte identification related to In vitro fertilization procedures, assign one code per service only, regardless of oocyte number identified.

Example:

A woman presents to the fertility medicine department for in vitro fertilization related procedure. The doctor withdraws follicular fluid sample for egg collection. In the laboratory, fluid is examined for the presence of oocytes and a total of 15 oocytes were identified.

Z31.2 In vitro fertilisation

N97.9 Female infertility, unspecified

13212-00-00 [1927] Transvaginal oocyte retrieval

73400-01-90 [7003] Oocyte (egg) identification from ovarian fluid

SBSCS 6051 Male fertility

Description

Male fertility testing uses advanced techniques to treat infertility. It involves handling, freezing, storing, and biopsy preparation of sperms and testicular tissue for genetic testing. Indications for fertility testing include risk for transmission of inherited disorders (preimplantation genetic testing) or infertility concerns related to cancer therapy.

Rules

1. Sperm isolation procedures **73400-02-40 [7005]** and **73400-02-50 [7005]** shall not be reported separately as they include all necessary semen analysis tests (motility, count).
1. Code **73400-03-60 [7004]** *Semen analysis of sperm presence & motility* is usually performed 12-14 weeks following vasectomy procedure and therefore cannot be assigned with **73400-03-30 [7004]** *Semen analysis of sperm presence & motility with Sims-Huhner test (postcoital test (PCT))* which is a time sensitive test.

3. Code **73400-04-00 [7004]** *Analysis of sperm by the cervical mucus penetration test with or without spinnbarkeit mucus elasticity test* is not gender specific and can be assigned for both male and female patients.

Example:

A man presents to the fertility medicine department for in vitro fertilization related procedure. The doctor performs Percutaneous epididymal sperm aspiration (PESA) to collect sperm sample. In the laboratory, sperm isolation was performed using a swim-up test and sperm count and motility were also analysed.

Z31.3	Other assisted fertilisation methods
N46	Male infertility
37605-00-01 [1177]	Percutaneous aspiration of epididymis, unilateral
73400-02-40 [7004]	Sperm isolation by simple preparation techniques (e.g., swim up, sperm wash) w/ semen analysis, for insemination or identification of sperm abnormalities.

SECTION 5 – AMBULANCE AND TRANSPORT SERVICES

This section includes standards for the set of codes used to report ambulance services offered by hospitals or medical centers (SBS Chapter 22). Standards for services provided by independent emergency medical service providers (such as Red Crescent or other private companies) are covered under Section 6 Emergency medical services.

Ambulance and transportation services can be provided by land or air vehicles, and cases may be classified as emergency or non-emergency. The call received by the ambulance dispatch call center will validate the following to classify the case as emergency or non-emergency:

- The patient's condition.
- Whether the patient is in a stable or unstable condition.
- Whether a paramedic or physician intervention is needed.

Ambulance teams shall be certified to administer basic or advanced life support, including for neonates and children:

- **Basic life support, or BLS**, generally refers to the type of care that first-responders, healthcare providers and public safety professionals provide to anyone who is experiencing cardiac arrest, respiratory distress or an obstructed airway. It requires knowledge and skills in cardiopulmonary resuscitation (CPR), using automated external defibrillators (AED) and relieving airway obstructions in patients of every age.
- **Advanced life support (ALS)**, also referred to as Advanced cardiac life support (ACLS), is a set of life-saving protocols and skills that extend beyond Basic Life Support (BLS). It is used to provide urgent treatment to cardiac emergencies such as cardiac arrest, stroke, myocardial infarction, and other conditions.

Ambulance minimum documentation requirements

Documentation is key for accurately coding ambulance services and ensuring the appropriate level of reimbursement. Paramedics shall be trained to document properly to support the coding of the service provided, as well as capture all relevant identification documents. At minimum, documentation shall include the following details:

- Reason for calling ambulance
- Ambulance arrival time
- Findings
- Treatment plan
- Diagnosis on arrival at the place of transfer (in transferred case)
- Ambulance departure time
- Patient identification document(s)
- Patient insurance details (if available).

SBSCS 7000 Emergency road transport

Description

Includes all road transports from home/site to a health care facility. Charges are by kilometer.

Rule

1. Emergency transport codes are assigned based on the level of medical monitoring
2. needed for patient transport, to either a Basic life support ambulance or an Advanced life support ambulance.

Example:

A 19-years-old patient complaining of low back pain. The patient fell down a flight of stairs at home and an BLS ambulance is taking him to the hospital.

M54.5	Low back pain
W10.9	Fall on and from other and unspecified stairs and steps
U73.9	Unspecified activity
Y92.09	Other and unspecified place in home
83520-00-00 [8001]	Basic life support ambulance charge per km

SBSCS 7001 Emergency air transport

Description

Emergency air transport includes transport via rotary or fixed wing aircraft.

Rule

1. A code shall be assigned for the type of emergency air transport (rotary or fixed wing)
2. A code for the diagnosis(es) shall be assigned.

Documentation

Documentation shall be provided to justify the use of emergency air transport in cases where emergency road transport could have also been used.

Example:

A 32-year-old woman is air lifted to hospital via helicopter following a car accident on a public highway.

T04.1	Crushing injuries involving thorax with abdomen, lower back and pelvis
V49.9	Car occupant [any] injured in unspecified traffic accident
U73.9	Unspecified activity
Y92.49	Unspecified public highway, street or road
83510-00-10 [7010]	Rotary Wing Air Transport
Documented justification:	Multiple trauma requiring time-critical retrieval to hospital not able to be achieved via road transport due to road congestion.

SBSCS 7002 Non-emergency transportation

Description

Non-emergency ambulance transportation is based on the level of medical monitoring needed for patient transport.

Rules

1. Ambulance transportation for patients that require a **high level of medical monitoring** (including those who need continuous IV drips, those on a chronic ventilator, and those who require cardiac monitoring), shall be assigned a code as a non-Emergency Ambulance Service for a patient on Advanced life support **83530-00-00 [8002] Non-emergency ambulance service for the transportation of a patient on advanced life support.**
2. **Basic life support transport** is for patients who have lower extremity fractures, patients transferred to sub-acute care facilities or who are discharged to home care, psychiatric patients, and other non-emergency medical transportation. These cases shall be assigned a code as a non- Emergency Ambulance Service for a non- acute patient, **83530-00-10 [8002] Non-emergency ambulance assistance for a non-acute patient in need for basic support services.**
3. For **non-emergency patient transport** several methods can be used to move patients from one zone to another. Assign the appropriate code from **[8003] Non-emergency road transport** based on the vehicle used (taxi, bus, etc.).

Example:

A hospital needs to transfer several wheelchair patients from one building to another within the same hospital area using a van.

83540-00-20 [8003] Transport wheelchair non-emergency

SECTION 6 – EMERGENCY MEDICAL SERVICES

Introduction

This section includes standards for the codes used to report EMS offered by independent EMS providers, such as Red Crescent or private companies (SBS Chapter 24). Standards for hospital and medical centre-based ambulance services are covered under Section 5 Ambulance and transport services.

EMS can be provided using land or air vehicles, and cases may be emergency or non-emergency.

The call received by the ambulance dispatch center will validate the following to classify the case as emergency or non-emergency:

- The patient's condition.
- Whether the patient is in a stable or unstable condition.
- Whether a paramedic or physician intervention is needed.

Ambulance minimum documentation requirements

Documentation is key for accurately coding ambulance services and ensuring the appropriate level of reimbursement. Paramedics shall be trained to document properly to support the coding of the service provided, as well as capture all relevant identification documents. At minimum, documentation shall include:

- Reason for calling ambulance
- Ambulance arrival time
- Findings
- Treatment plan
- Diagnosis on arrival at the place of transfer (in transferred case)
- Ambulance departure time
- Patient identification document(s)
- Patient insurance details (if available).

SBSCS 8001 Ambulance services

Descriptions

Basic life support, (BLS), refers to the type of care that first-responders, healthcare providers and public safety professionals provide to anyone who is experiencing cardiac arrest, respiratory distress or an obstructed airway. BLS requires knowledge and skills in cardiopulmonary resuscitation (CPR), using automated external defibrillators (AED) and relieving airway obstructions in patients of every age.

Advanced life support (ALS), also referred to as Advanced Cardiac Life Support (ACLS), is a set of life-saving protocols and skills that extend beyond Basic Life Support. It is used to provide urgent treatment to cardiac emergencies such as cardiac arrest, stroke, myocardial infarction, and other conditions.

Documentation

Care shall be taken to the documented procedure, when assigning a code for Ambulance response and treatment with or without transport (either BLS or ALS), depending on whether the patient

transport was carried out by a certified team (BLS or ALS), the travelled distance, with or without medications, or if the documented procedure states that a Basic Life Support Ambulance has reached the scene and the team has physically attended and treated the patient but without transport.

Rules

1. If the patient transport request was cancelled after EMS dispatch has deployed a BLS team, and before the team has physically attended to the patient, assign **85130-00-00 [8013]** *Basic Life Support cancellation*.
2. In cases where Advanced life support protocol was used, assign **85320-00-00 [8013]** *Advanced Life Support transport declination* when the patient transport request was declined by the patient after EMS dispatch has deployed an ALS team, and the team has physically attended to the patient.
3. Assign **85330-00-00 [8013]** *Advanced Life Support cancellation* when the patient transport request was cancelled after EMS dispatch has deployed an ALS team and before the team has physically attended to the patient.

Example 1:

A 24-year-old patient was hit by a motor vehicle while walking on foot. EMS were called and the personnel arrived on the scene. The patient was transferred to the nearest major hospital, which was 70 km away in the city, no complications occurred during the transfer.

T14.9	Injury, Unspecified
U73.9	Unspecified activity
V09.9	Pedestrian injured in unspecified transport accident
85200-01-00 [8013]	Advanced Life Support transport up to 50 km
85300-00-00 [8013]	ALS Ambulance extra distance charge, after 50 km up to 300 km (add-on code)

Example 2:

A 23-years-old patient was admitted due to falling off a mountain while rock climbing. He sustained threatening injuries and an aeromedical transport was needed for quick evacuation.

T14.9	Injury, Unspecified.
W15	Fall from cliff
Y92.86	Other specified countryside
85500-00-00 [8013]	Aeromedical transport (Medevac)
85400-00-00 [8013]	Advanced Life Support service by specialized team.

SECTION 7 – KSA SERVICE CODES

Introduction

Service codes (SBS Chapter 23) are used for billing physician/ancillary staff encounters with the patient, such as consultations and teleconsultations. They also include room charges.

Service codes can be used for coding encounters in both admitted and non-admitted care settings.

SBSCS 9000 Consultations

Descriptions

A **consultation** is any activity undertaken for the detection, treatment or management by a Medical Practitioner (General practitioner, Specialist-1 [First Registrar doctor], Specialist-2 [Second Registrar doctor], Consultant or allied health provider) of an illness, injury, medical condition or related symptom, including but not limited to the application of prescribed drugs or therapy (conventional or alternative).

Follow up consultations describe ongoing surveillance, following the completion of treatment for a disease, condition, or injury, suggesting that the disease has been completely treated and is no longer present.

Repeat consultations describe where the patient requires continued care during the healing or recovery phase, or for the long-term progression of the disease, after the initial treatment has been performed.

Health screening may be provided by either a registered nurse or physician; this service includes all services related to vital signs, weight, family history, and the early detection of heart disease and other conditions as well as general lifestyle assessment.

Community based doctors are defined as physicians who work in ambulatory care facilities and refer patients that need surgery to secondary or tertiary care facilities due to their facility not having the capacity to perform the needed services. The surgery shall be done by the doctor himself. In such cases, the surgeon's fee will be claimed by the doctor directly and the treating facility charges shall be claimed by them directly. It is also possible that the treating facility could claim for the whole service and then pay the CBD directly, by either a percentage, or pre-agreed surgeon fees.

Rounding fees are applicable only in admitted patient settings, where the physician visits the patient daily. This includes GP, Specialist, Intensivist and Consultant visits, whether in the Ward, ICU, NICU, or PICU.

A surgeon assistant fee is defined as when the support of another physician is sourced and used. This is usually applicable to GPs and Specialists.

Rules

1. Care shall also be taken to identify the clinician type, while assigning the most appropriate code
2. Follow-up codes may be used in conjunction with past medical history diagnosis codes, to give a complete picture of the healed condition and its treatment. Sequence first the follow up code followed by the history code. Care shall also be taken to identify the clinician type while assigning the follow up code.

3. Care shall be taken when assigning the Free Secondary treatment for the same condition codes as it shall only be assigned for return visits within 14 days from the original/first treatment visit.
4. For admitted patient consultations, where two or more interrelated conditions each potentially meet the definition for principal diagnosis, the charge ratio will be one only for any of the two conditions considered as primary reason for consultation. This includes Consultations for GP, Specialist, and Consultant.

Example 1:

A 17-years-old patient previously diagnosed with Athlete's Foot (Tinea Pedis), came to the dermatology clinic for follow-up after 2 weeks. Specialist examination showed clear-up of area.

L40.0 Tinea pedis

83600-00-40 [8004] Secondary follow up treatment with the same condition within the mandated timelines for Specialist-1

Example 2:

A 19-years-old patient previously diagnosed with mild Psoriasis vulgaris on his knees, came to the dermatology clinic complaining of swelling and redness on his elbow. Specialist examination revealed new flare up areas. The doctor prescribed topical steroids to reduce the swelling and redness.

B35.3 Psoriasis vulgaris

83600-00-70 [8004] A repeated visit within 3 to 4 weeks from initial encounter for the same reported illness under OPD seen by Licensed Specialist -1

SBSCS 9010 Telemedicine

Descriptions

Telemedicine is the use of advanced telecommunication technologies to exchange health information and provide health care services across geographic, time, social and cultural barriers. It can be provided by General Practitioner, Specialist, Consultant, Psychotherapy, Nursing and emergency services

The term **Virtual care** is replacing the term Telemedicine.

Rule

1. Assignment of the code shall be based on the type of physician providing the medical counselling and treatment.

Example: 1

A 42-years-old patient is suffering from fever and cough, he used a telemedicine app where he was assessed by a General Practitioner.

R50.9 Fever, unspecified

R05 Cough

83600-03-40 [8004] Telemedicine assessment for diagnosis treatment and counselling of a new or established patient by a General Practitioner

SBSCS 9011 Homecare services

Description

Homecare services include all service provided to a patient while he/she is staying at home, where no hospitalization is required. It includes those who are convalescing, disabled, or terminally ill.

Most private insurance plans pay for services that home health agencies deliver. Payment from these sources depends on whether the care is medically necessary, and the individual meets specific coverage criteria.

Rule

1. Assign code/s for:

- The problem/condition being treated as the principal diagnosis.
- Other problems or symptoms which meet criteria as additional diagnoses.
- Appropriate procedure codes from block [2620].

Example 1:

A 46-years-old patient is scheduled for an in-home follow-up (by a GP). The patient had a planned joint replacement for traumatic arthritis of the left knee caused by a skiing accident several years ago. He also has hypertension and hyperlipidaemia.

Z47.0 Aftercare following joint replacement surgery

I10 Essential (primary) hypertension

E78.5 Hyperlipidaemia, unspecified

Z96.65 Presence of left artificial knee joint

83620-00-50 [8006] Home assessment for diagnosis treatment and counselling of a new or established patient by general practitioner

Example 2:

A 71-year-old patient recently had a colostomy placed due to metastatic cancer on her colon that spread to her left ovary. The patient is assigned a home health nurse for a full day (8 hours) to teach her on the care of the colostomy and management of the symptoms related to metastatic cancer.

Z43.3	Encounter for attention to colostomy
C78.5	Secondary malignant neoplasm of large intestine and rectum
M8000/6	Neoplasm, metastatic
C56	Malignant neoplasm of ovary
M8000/3	Neoplasm, malignant
83620-00-00 [8006]	Nurses fixed fee for a day time

Example 3:

A 45-year-old patient was involved in a head on collision with another vehicle. the patient dislocated his right shaller as a result of bracing himself against the impact. The shaller was relocated at the scene. He was taken to the hospital and was diagnosed with a whiplash associated disorder and mild concussion, as well as a right shaller dislocation. He was referred to In-Home Physiotherapy for his shaller and neck immediately following the accident due to his inability to drive because of concussion symptoms.

S06.00	Concussion
S13.4	Whiplash injury
S43.00	Shaller dislocation
47009-00-01 [1402]	Closed reduction of dislocation of shaller, unilateral
83620-00-10 [8006]	Physiotherapy, per session

Example 4:

A 66-year-old patient, previously diagnosed with chronic obstructive pulmonary disease (COPD) was discharged requiring respiratory home health care.

J44.9	Chronic obstructive pulmonary disease
83620-00-20 [8006]	Respiratory therapy, per session

SBSCS 9012 Cardiac catheterization lab

Description

Catheterization laboratory is a procedure room with diagnostic imaging equipment used to visualize the arteries and chambers of the heart, and treat any abnormality detected. In a Catheterisation Laboratory several types of test and procedure are performed like ablation, angiogram, angioplasty, and implantation of pacemakers. Usually the patient is awake for these procedures. A Catheterisation Laboratory is staffed by a team of different specialists, usually led by an interventional cardiologist.

Rules

1. Assign the code for the problem/condition that is being treated as the principal diagnosis code. Assign codes for other problems or symptoms as additional diagnosis.
2. Assign an appropriate Cath Lab charge, based on the inclusivity of consumables in the room (whether inclusive or exclusive).
3. Drugs and consumables shall be billed separately if the Catheter Laboratory Charge excludes consumables.
4. Anaesthesia shall be billed separately. See SBSCS 3012 Anaesthesia.

Example:

A 65-year-old patient is admitted for cardiac catheterization to treat his unstable angina. He has a history of CABG a few years ago. Cardiac angiogram demonstrated occlusion of coronary artery in his grafted (SVG) vessels. Clinical documentation did not state if the occluded graft is related to the initial surgery. The procedure was carried out under sedation.

I20.0	Unstable angina
I25.12	Atherosclerotic heart disease of autologous bypass graft
38218-02-00 [668]	Coronary angiography with left and right heart catheterisation
83640-00-00 [8008]	Catheterization Lab Charges - Excluding consumables - every 30 mins
92515-99-00 [1910]	Sedation, ASA 99

SBSCS 9013 COVID–19 packages

Description

COVID-19 is an acute respiratory illness in humans caused by the coronavirus, capable of producing severe symptoms and in some cases death, especially in older people and those with underlying health conditions.

Rule

1. Assigning diagnosis codes for COVID-19 depends on the test results (Ministry of Health, 2022). Patients may present with different scenarios (whether with symptoms/contact with confirmed cases or not). See Table 4.

Table 4: COVID-19 diagnosis codes

Negative result	Scenario	Positive result	Scenario
PDx – Symptoms or Condition ADx – Z20.8 Contact with and exposure to other communicable disease ADx – U06.0 Emergency use of U06.0	Present symptoms + Contact with positive COVID-19 case	PDx – Symptoms or Condition ADx – B97.2 Coronavirus as the cause of the disease classified to other chapters ADx – U07.1 Emergency use of U07.1	Present symptoms + Contact with positive COVID-19 case
PDx – Symptoms or Condition ADx – Z03.8 observation for other suspected disease and condition ADx – U06.0 Emergency use of U06.0	Present symptoms + No contact with positive COVID-19 case	PDx – Symptoms or Condition. ADx – B97.2 Coronavirus as the cause of the disease classified to other chapters ADx – U07.1 Emergency use of U07.1	Present symptoms + No contact with positive COVID-19 case
PDx – Z20.8 Contact with and exposure to other communicable disease ADx – U06.0 Emergency use of U06.0	No present symptoms + Contact with positive COVID-19 case	PDx – B34.2 Coronavirus infection, unspecified. ADx – U07.1 Emergency use of U07.1	No present symptoms + Contact with positive COVID-19 case
PDx – Z71.1 Person with feared complaint in whom no diagnosis is made ADx – U06.0 Emergency use of U06.0	No present symptoms + No contact with positive COVID-19 case (Person suspects disease)	PDx – B34.2 Coronavirus infection, unspecified ADx – U07.1 Emergency use of U07.1	No present symptoms + No contact with positive COVID-19 case (Person suspects disease)
PDx – Z11.5 Special screening examination for other viral disease. ADx – U06.0 Emergency use of U06.0	No present symptoms + No contact with positive COVID-19 case (Mandatory test by facility)	PDx – B34.2 Coronavirus infection, unspecified. ADx – U07.1 Emergency use of U07.1.	No present symptoms + No contact with positive COVID-19 case (Mandatory test by facility)
No Symptoms or Conditions present			Corona Virus and Pregnancy
PDx - O98.5 Other viral diseases complicating pregnancy, childbirth and the puerperium ADx - Follow the above codes based on each scenario wither positive or negative			
Symptoms or Conditions present			
PDx – O99.- Other viral diseases complicating pregnancy, childbirth and the puerperium ADx – Symptoms or Condition ADx – O98.5 Other viral diseases complicating pregnancy, childbirth and the puerperium ADx Follow the above codes based on each scenario wither positive or negative			
If it is negative: PDx - Z03.71 Observation of newborn for suspected infectious condition ADx - U06.0 Emergency use of U06.0 If it is positive: Codded as above			Infants younger than 28 days
Z29.0 Isolation Codded as ADx			Patient Isolation

2. Positive COVID-19 patients can be assigned different package service codes for COVID-19 care, depending on the severity of the patient's condition and the specific room used. The condition can range between mild, moderate, severe, or critical. Proper documentation of the symptoms and the provided treatment is needed to assign the most appropriate room code. See Table 5.

Table 5: COVID-19 admitted patient care codes

Code	Definition
83690-00-20 [2690] Per Diem – IP Care COVID-19 Mild	Mild patients usually do not require O2 treatment, showing no evidence of pneumonia or shortness of breath. However, they might present with other symptoms of COVID-19 e.g., fever.
83690-00-30 [2690] Per Diem – IP Care COVID-19 Moderate	Moderate patients usually do not require O2 treatment, showing no evidence of pneumonia or shortness of breath. However, they might present with other symptoms of COVID-19 e.g., fever.
83690-00-40 [2690] Per Diem – IP Care COVID-19 Severe	Severe patients usually show clinical signs of pneumonia (fever, cough, dyspnoea, fast breathing) and either a respiratory rate >30/min (adults); ≥40/min (children < 5 years, Blood oxygen saturation <93% on room air, Severe respiratory distress
83690-00-50 [2690] Per Diem – IP Care COVID-19 Critical	Critical patients usually show clinical signs of ARDS, respiratory failure requiring ventilation, Sepsis, or Septic Shock.

Example 1:

A 21-year-old confirmed COVID-19 patient was admitted to the hospital complaining from cough, fever, dyspnoea and severe respiratory distress.

U07.1 COVID-19

83690-00-40 [2680] Per diem – IP Care COVID- 19 Severe

Example 2:

A COVID-19 patient admitted to the hospital with acute hypoxic respiratory failure that progresses to ARDS (acute respiratory distress syndrome).

U07.1 COVID-19

J80 ARDS

83690-00-50 [2680] Per diem – IP Care COVID- 19 Critical

SBSCS 9014 Room and board

Description

Room and Board Services are provided to patients residing in a medical facility and are admitted in that facility for at least 24 hours while being provided lodging and meals.

Rule

1. When a room and board services code is reported, clinical coders shall determine the following to assign a suitable code:

- **Type of room:**
 - ICU (*intensive care unit*),
 - NICU (Neonatal Intensive Care Unit),
 - PICU (Paediatric intensive care unit), SCBU (Special care baby unit),
 - SCU (Special care unit), Nursery, or Special care Nursery.
 - SCU (Special care unit
 - Nursery or
 - Special care nursery
- **Level of the room:**
 - VIP
 - First class
 - Suite, private room deluxe
 - Royal suite
 - Semi-private
 - Private room
 - Standard
 - Ward room
 - Excluding or including consumables

Example:

A 25-days-old infant suffering from hypoxia, was admitted to NICU (Neonatal Intensive Care Unit) to monitor the newborn health.

P21.9 Birth asphyxia unspecified

83610-03-60 [8005] Newborn monitoring without any special lifesaving equipment in NICU environment per 24 hr interval

SBSCS 9015 Room upgrade

Description

A room rate difference code is used when a patient upgrades the type of hospital residency, and a different charge between the rooms needs to be estimated.

Rules

1 Three codes shall be assigned,

- i) a code for the original room accommodation,
- ii) a second code for the room rate difference the patient upgraded to,
- iii) a code for the new room accommodation.

2 There are three types of room rate difference codes, and they shall be assigned according to the type of room the patient will be upgrading to.

83610-01-10 [8005] Room Rate difference – Daily Rate (Day 1 and more) - First Class Room

83610-01-60 [8005] Room Rate difference – Daily Rate (Day 1 and more) - Suite

83610-01-70 [8005] Room Rate difference – Daily Rate (Day 1 and more) - Royal Suite

Example:

A 45-years-old admitted patient asked to upgrade his room from a regular room to a Royal suite for hospitalization.

83610-00-10 [8005] Day Stay Room charges

83610-01-80 [8005] Room Rate difference - Daily Rate (Day 1 and more) - Royal Suite

83610-01-70 [8005] Room and Board: Royal Suite

SBSCS 9016 Labour and delivery room

Descriptions

Delivery room codes describe a special procedure room in a hospital where women give birth. The **Labour and Delivery Room** is equipped to handle vaginal births only. An epidural or other pain medication can be administered in this room if they are needed. If required, forceps or vacuum delivery can be performed in most labour and delivery rooms. If a caesarean section is required the recovery will not be in the labour and delivery room, even if the patient has laboured in one. Most delivery rooms are equipped to handle newborn care with life-saving resuscitation equipment.

Rules

1. Delivery room for normal delivery including consumables

Assign codes:

- From O80–O84 *Delivery* as the principal diagnosis code.
- Code for delivery type (vaginal delivery) **90467-00-00 [1336]** *Spontaneous vertex delivery* or **90470-00-00 [1339]** *Spontaneous breech delivery*.
- Code for maternity facilities **83630-00-10 [8007]** *Maternity Facilities for Normal Delivery (All Inclusive)*.
- Drugs shall be reported Separately.

2. Delivery room for normal delivery excluding consumables

Assign codes:

- From O80–O84 *Delivery* as the principal diagnosis code.
- **90467-00-00 [1336]** *Spontaneous vertex delivery* or **90470-00-00 [1339]** *Spontaneous breech delivery*
- **83630-00-00 [8007]** *Maternity facilities for normal delivery (All Inclusive)*
- Drugs shall be reported Separately

SECTION 8 – MORTUARY SERVICES

This section includes standards for the set of codes used to report mortuary services (SBS Chapter 25). **Mortuary services** are services that include but are not limited to the preparation and transportation of the dead for burial, and funerals.

SBSCS 9050 Mortuary preparation

Descriptions

Mortuary preparation includes keeping the body at the mortuary; isolation per day; for a person with communicable (infectious) disease).

Rule

1. Assign a code for either of the following – which ever apply:
 - **10001-00-00 [8014]** *Mortuary preparation...person with communicable disease, and/or*
 - **10002-00-00 [8014]** *Mortuary preparation of body: embalming/mummification/coffin*

NOTE: These codes are assigned for preparation for the burial of the bodies known to have had one of the communicable (infectious) diseases at the time of death. This includes COVID 19 (Not to exceed 9 days), avian influenza in humans, diphtheria, plague, respiratory anthrax, severe acute respiratory syndrome (SARS), smallpox and any viral haemorrhagic fever (including Lassa, Marburg, Ebola and Crimean-Congo fevers).

2. The cause of death shall be sequenced as the principal diagnosis, followed by the appropriate service codes.
3. These codes shall not be used unless the discharge disposition/status indicates patient death.

SBSCS 9051 Mortuary transportation

Description

Mortuary transport service is the removal and transportation of human remains, by an individual or business for compensation, via road or air transport.

Rules

1. When mortuary transportation is reported, and the cause of death is unknown, assign **R99** *Other ill-defined and unspecified causes of mortality* as the principal diagnosis.
2. Assign as the principal diagnosis the reason for the death if known, then assign the appropriate service codes for transportation.
3. When an air mortuary transportation is reported without mentioning the aircraft type, assign code **10021-00-00 [8015]** *Mortuary transportation, air: Rotary wing ambulance serving as mortuary transportation, air mileage, per km*, as this type of aircraft is more commonly used than the fixed wing.

Example:

A 76-year-old male patient passed away due to a massive cerebral infarction shortly after admission to the hospital. The patient's body was transported to his family home via air ambulance.

I63.9 Cerebral infarction, unspecified

10021-00-00 [8015] Mortuary transportation, air; Rotary wing ambulance serving as mortuary transportation, air mileage, per km

SECTION 9 REHABILITATION SERVICES

The World Health Organization describes the core task of rehabilitation as addressing the problems in functioning that have arisen in relation to a disease, injury, or the ageing process, in the context of the individual person.

A rehabilitation package is a rehabilitation service provided over a period where one or more rehabilitation interventions have been undertaken by a clinician.

SBSCS 9020 Rehabilitation packages

Description

Rehabilitation packages are classified by two factors:

- the type of clinician delivering the care – rehabilitation packages are delivered by allied health professionals or other clinicians who provide rehabilitation care.
- the amount of time with that clinician – rehabilitation packages are classified by the amount of time spent by the allied health professional or other clinician on the same day.

Rules

Assign a code from the following blocks where a rehabilitation package has been delivered:

- Block [8018] Audiology packages, include services delivered by an audiologist.
- Block [8019] Dietary packages, includes services delivered by a dietitian or nutritionist.
- Block [8020] Occupational therapy packages, including services delivered by an occupational therapist.
- Block [8021] Optometry packages, includes services delivered by an optometrist.
- Block [9001] Orthotics and prosthetics packages, includes services delivered by an orthotist or prosthetics specialist.
- Block [9002] Osteopathy packages, include services delivered by an osteopath.
- Block [9003] Physiotherapy packages, includes services delivered by a physiotherapist.
- Block [9004] Psychology therapy packages, including services delivered by an audiologist.
- Block [9005] Speech therapy packages, include services delivered by a speech therapist.
- Block [9006] Other rehabilitation packages, includes services delivered by allied health professionals or clinicians providing rehabilitation services that are not described in blocks [8018] – [9005].

Care should be taken in the type of clinician providing the rehabilitation package to assign the most appropriate code.

Example:

A patient presents to the clinic for rehabilitation care with a history of cerebral infarction. The patient's schedule included 30 minutes for physiotherapy to address muscle weakness, 30 minutes with a speech therapist for the patient's dysphagia, and 1 hour with a psychologist to address chronic pain. The speech therapist was unavailable for the appointment due to illness, and the physiotherapist saw the patient for 40 minutes instead of 30 minutes.

98014-00-30 [9003] Physiotherapy package, 45 minutes and under

98015-00-40 [9004] Psychological therapy package, 60 minutes and under

Rationale:

No code is assigned for the speech therapist as the service did not occur (due to illness).

The code for physiotherapy is classified as a 40-minute service (**98014-00-30 [9003]**) even though the scheduled plan was for 30 minutes.

The code for psychological therapy is assigned by the clinician and the length of service.

Rehabilitation care may be performed in a group setting with more than one patient.

Assign **98007-00-10 [8017]** Group therapy, not elsewhere classified, after a code from the rehabilitation package in blocks [8018] – [9005] where more than one patient was present in the rehabilitation care service provided.

Example:

A patient presents to the clinic for a half-day of rehabilitation care with multiple clinicians. They spend 45 minutes in hydrotherapy, 1 hour with an occupational therapist, and 45 minutes in group psychology.

98014-00-30 [9003]	Physiotherapy package, 45 minutes and under
98010-00-40 [8020]	Occupational therapy package, 60 minutes and under
98015-00-30 [9004]	Psychological therapy package, 45 minutes and under
96180-00-10 [1873]	Group psychotherapies/psychosocial therapies (other than family)

Rationale:

The hydrotherapy is delivered by a physiotherapist.

The occupational therapy is delivered by an occupational therapist for 60 minutes.

The psychological therapy is delivered by a psychologist, but also in a group. The group therapy code **98007-00-10 [8017]** has an exclusion for psychological group therapy, and therefore **96180-00-10 [1873]** is assigned.

The code for psychological therapy is assigned by the clinician and the length of service.

Appendices And References

Appendix A: Index of SBS Coding Standards

SBSCS 3000 Unlisted codes	10
SBSCS 3010 General guidelines for procedures for non-admitted patients	12
SBSCS 3011 Bilateral procedures	13
SBSCS 4000 Examination and diagnostics	15
SBSCS 4001 Diagnostic models	17
SBSCS 4005 Preventive procedures	18
SBSCS 4010 Dental anaesthesiology	21
SBSCS 4020 Periodontal therapy	24
SBSCS 4021 Guided tissue regeneration	25
SBSCS 4030 Restoration	27
SBSCS 4040 Pulp capping	29
SBSCS 4041 Pulpotomy	31
SBSCS 4042 Root canal treatment	31
SBSCS 4050 Intraoral osseointegrated implants	35
SBSCS 4051 Partial dentures implant supported	35
SBSCS 4060 Dentures	37
SBSCS 4061 Appliances for diagnosed snoring and obstructive sleep apnoea	39
SBSCS 4070 Space maintainer	40
SBSCS 4080 Comprehensive orthodontic exam	41
SBSCS 4081 Sequential plastic aligners	42
SBSCS 4090 Alveolar osseous procedure	43
SBSCS 4091 Repair of wound	43
SBSCS 4092 Excision of lesion	44
SBSCS 5000 Imaging services for non-admitted care	45
SBSCS 5020 Digital subtraction angiography and Digital subtraction selective	46
SBSCS 5030 Diagnostic ultrasound of the eye	48
SBSCS 6000 Biochemical measurements	54
SBSCS 6001 Urinalysis	54
SBSCS 6002 Drug and chemical toxicology	55
SBSCS 6003 Test panels	56
SBSCS 6010 examination & culture procedures	57
SBSCS 6011 Isolation and detection procedures	57
SBSCS 6012 Smears and antimicrobial susceptibility	58
SBSCS 6020 Blood and cell count	59
SBSCS 6021 Coagulation	59
SBSCS 6022 Immunology and serology	60
SBSCS 6023 Blood bank	60
SBSCS 6030 Genetic testing and sequencing	61
SBSCS 6031 HLA typing	62
SBSCS 6032 Multianalyte and other molecular assays	62
SBSCS 6040 Cytology	64
SBSCS 6041 Histology	64
SBSCS 6042 Cytogenetics	65
SBSCS 6043 In vivo and other pathology procedures	66
SBSCS 6050 Female fertility	67
SBSCS 6051 Male fertility	67
SBSCS 7000 Emergency road transport	70
SBSCS 7001 Emergency air transport	70

SBSCS 7002 Non-emergency transportation	71
SBSCS 8001 Ambulance services	73
SBSCS 9000 Consultations	74
SBSCS 9010 Telemedicine	75
SBSCS 9011 Homecare services	76
SBSCS 9012 Cardiac catheterization lab	77
SBSCS 9013 COVID-19 packages	78
SBSCS 9014 Room and board	80
SBSCS 9015 Room upgrade	81
SBSCS 9016 Labour and delivery room	81
SBSCS 9050 Mortuary preparation	83
SBSCS 9051 Mortuary transportation	83
SBSCS 9020 Rehabilitation packages	83

Appendix B: Clinical Coders' Creed

Although new codes are introduced regularly, on the whole the ICD-10-AM classification structure remains constant over time. Codes and coding standards need to change to try and keep pace with medicine, but ultimately, clinical coders will often need to make decisions which are based on their **experience and common sense** as well as the resources available to them.

When you look at what clinical coders do objectively, they assign numbers from a structured, classification system to complex, ever-changing medical concepts which are not documented in a standardised way – no wonder it can be difficult! To revisit the fundamental skills of the clinical coder:

- A clinical coder has a thorough, working knowledge of medical science and terminology.
- A clinical coder can read the clinical record and make decisions about the appropriate codes to assign, based on the clinical documentation.
- A clinical coder understands the structure and use of statistical classification.

The important features of these three points are **medical science, make decisions** and **structure**.

- Medical science is complex and forever changing.
- Decision-making is subjective.
- Structure of the classification is static.

The point is, no matter how much one might hope there will be hard and fast rules to solve all our coding problems, it remains that no amount of rules will ever replace the educated judgments that clinical coders make about specific cases based on the...

Clinical Coders' Creed

These things are the fundamentals of the art and science of clinical coding:

Clinical documentation

Communication with clinicians

Coding standards

Conventions

Classification experience

Common sense

Science of medicine

All this serves to highlight the considerable and often forgotten skills of clinical coders.

Decisions in coding based on **Sailing the Seven Cs with the Clinical Coders' Creed** will ensure assignment of a code that is as good as possible – the work of a competent clinical coder.

Appendix C: Standards for ethical conduct in clinical coding

To ensure national consistency in coding practice, the **Standards for Ethical Conduct in Clinical Coding** have been developed to guide in defining and promoting ethical practices associated with clinical coding undertaken by Clinical Coders and/or Health Information Managers.

These standards shall also assist other related healthcare administrators/stakeholders in understanding the ethics surrounding the process of clinical coding.

Ethical practices are core to the clinical coding role, ensuring the integrity of coded clinical data at a national level. Those performing the clinical coding function shall endeavor to uphold the Standards for Ethical Conduct in Clinical Coding in all situations related to the collection and use of health information within the healthcare facility or organisation.

The Standards for Ethical Conduct in Clinical Coding apply regardless of the type of facility or organisation, level of authority within the facility, or local coding protocols.

Ethics in Clinical Coding Practice

A clinical coder shall:

- Ensure that they have access to all the relevant clinical information (electronic or paper-based) to undertake the abstraction and coding processes.
- Ensure that the documentation within the clinical record justifies the selection of diagnoses and intervention codes, consulting clinicians as appropriate.
- Apply the Kingdom of Saudi Arabia Billing System Coding Standards (SBSCS) and other official reporting requirements for:
 - Abstracting diagnoses and procedures using the entire clinical record
 - Selecting and sequencing diagnosis and procedure codes
- Participate (as required) in interdisciplinary engagement for clarification of diagnostic or interventional detail or ambiguity in clinical documentation, and improve clinician understanding of the role of a clinical coder in the health setting. This may be via one-to-one interactions, team meetings, education sessions, publications or presentations.

A clinical coder shall not:

- Code diagnoses/interventions without supporting documentation for 'maximising' hospital reimbursement. 'Maximising' for reimbursement is not an ethical practice.
 - 'Maximising' is defined as undertaking a practice not based on fact (i.e., addition or alteration of codes for conditions not documented within the clinical record), for the sole purpose of increasing reimbursement

- This is not to be confused with 'optimisation', which is defined as using all documentation within the clinical record to achieve the best outcome.
- Omit diagnoses/interventions for the purpose(s) of minimising financial loss, or legal liability.
- Use the interdisciplinary engagement process inappropriately. This includes:
 - Prompt or use leading questions for purposes of 'maximising' reimbursement
 - Use details for potential financial gain as part of a clinician query process
 - Seek additional documentation for conditions not already apparent in the existing clinical documentation. This includes the use of pathology or radiology results as a basis for a clinician query.
- Submit pressure from others to manipulate coded data for any purpose.

Ethics in clinical coding quality and education

A clinical coder shall:

- Participate in quality improvement activities to ensure that the quality of coding supports the use of data (such as for research, healthcare management and planning, evaluation, and reimbursement).
- Assist in the application of ethical coding protocols, including demonstration of courtesy towards and mutual respect for colleagues, and accountability for the individual's work.
- Participate in ongoing education to ensure that clinical coding skills and clinical knowledge meet the appropriate level of competence for the healthcare/organisational setting.
- Contribute (where appropriate) to ongoing development of classification systems in conjunction with appropriate coding and clinical experts.
- Participate in developing and strengthening the clinical coding profession through supporting peers and networking with others interested in health information management, including non-traditional clinical coding/HIM activities (e.g., private health funds or casemix units).

Ethics in clinical coding and legal requirements

A clinical coder shall:

- Observe policies and legal requirements regarding privacy, confidentiality, disclosure, and security of patient-related information.
- Refuse to participate in, or conceal, illegal or unethical processes or procedures.

References and bibliography

- American Medical Association. (2020). *CPT 2021 Professional Edition*. American Medical Association.
- Australian Government Institute of Health and Welfare. (2023). *METeOR*. Australian Government
- Institute of Health and Welfare. Retrieved 7 March from <https://meteor.aihw.gov.au/content/181162>
- Colón-Franco, J. M., Bossuyt, P. M. M., Algeciras-SBSmlich, A., Bird, C., Engstrom-Melnyk, J., Fleisher, M., Kattan, M., & Lambert-Messerlian, G. (2018). Current and Emerging Multianalyte Assays with Algorithmic Analyses—Are Laboratories Ready for Clinical Adoption? *Clinical Chemistry*, *64*(6), 885-891.
- Council for Health Insurance, Saudi Arabia. (2020). *Introduction to the Standards and Guidelines of CCHI Billing System CCHI-BS V0.2 Beta*. Retrieved from <https://chi.gov.sa/en/Uniplat/Documents/Standards%20and%20Guidelines%20of%20CCHI%20Billing%20System.pdf>
- Council for Health Insurance, Saudi Arabia (2023), *Guidelines for Mapping Provider Service Lists to Standard Code Sets*.
- Dean, D., & Gharib, H. (2000). Fine-Needle Aspiration Biopsy of the Thyroid Gland. In K. R. Feingold, B. Anawalt, M. R. Blackman, A. Boyce, G. Chrousos, E. Corpas, W. W. de Herder, K. Dhataria, K. Dungan, J. Hofland, S. Kalra, G. Kaltsas, N. Kapoor, C. Koch, P. Kopp, M. Korbonits, C. S. Kovacs, W. Kuohung, B. Laferrère, M. Levy, E. A. McGee, R. McLachlan, M. New, J. Purnell, R. Sahay, F. Singer, M. A. Sperling, C. A. Stratakis, D. L. Trencé, & D. P. Wilson (Eds.), *Endotext*. MDText.com, Inc. Copyright © 2000-2023, MDText.com, Inc.
- Dubai Health Authority. (2022). *Information Technology Department - User Management Guide Version 3.0*. Dubai Health Authority. chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.dha.gov.ae/uploads/042022/UserManagement_Individual2022435361.pdf
- Fagundes, T. C., Barata, T. J. E., Prakki, A., Bresciani, E., & Pereira, J. C. (2009). Indirect pulp treatment in a permanent molar: case report of 4-year follow-up. *Journal of applied oral science : revista FOB*, *17*(1), 70-74.
- Ministry Of Health Saudi Arabia. (2021). *The Saudi Birth Centre Standards*. Ministry Of Health Saudi Arabia. <https://www.moh.gov.sa/en/Ministry/MediaCenter/Publications/Pages/The-Saudi-Home-Birth-Standards.pdf>
- Ministry Of Health, Saudi Arabia. (2022). *Saudi MOH protocol for patients suspected of/confirmed with COVID-19*. <https://www.moh.gov.sa/Ministry/MediaCenter/Publications/Documents/MOH-therapeutic-protocol-for-COVID-19.pdf>
- Ministry Of Health, Saudi Arabia. (2023). *Therapeutic Guidelines and Protocols*. Ministry Of Health Saudi Arabia. <https://www.moh.gov.sa/en/Ministry/MediaCenter/Publications/Pages/Protocols.aspx>

- Novota, P., Cerna, M., & 'anděl, M. (2002). Metódy na identifikáciu polymorfizmu HLA antigénov [Methods for identification of HLA antigen polymorphisms]. *Casopis lekaru ceskych*, 141(6), 171-175.
- Ozkan, E., & Lacerda, M. P. (2022). Genetics, Cytogenetic Testing And Conventional Karyotype. In *StatPearls (Online)*. StatPearls Publishing. <https://www.ncbi.nlm.nih.gov/books/NBK563293/>
- The Independent Hospital Pricing Authority. (2017). *ICD-10-AM/ACHI/ACS Tenth Edition*. The Independent Hospital Pricing Authority.
- Trompeter, S., & Cohen, A. (2014). Blood transfusion. In M. D. Cappellini, A. Cohen, J. Porter, A. Taher, & V. Viprakasit (Eds.), *Guidelines for the Management of Transfusion Dependent Thalassaemia (TDT) (Online)*. Thalassaemia International Federation. <https://www.ncbi.nlm.nih.gov/books/NBK269390/>
- Truant, K. (2017). Oral & Maxillofacial Surgery - An Introduction for Registered Nurses. Retrieved 7 March 2023 from <https://kathryntruant.com/assignments-3240/oral-maxillofacial-surgery-an-introduction-for-registered-nurses/>
- Yurdukoru, B. (1989). Standardization of the tooth numbering systems. *Ankara Univ Hekim Fak Derg*, 16(3), 527-531.