Chapter 30
A Novel Methodology for the Objective Ascertainment of Psychic and Existential Damage

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Abstract The process of ascertaining impairments and/or disabilities which pertain to the "personal sphere" of the individual, such as pain and suffering, loss of amenity, and/or psychological-existential damage, poses particular difficulties in relation to the obtainment of scientific evidence. The "immateriality" and the subjective connotation of the "personal sphere" are, in themselves, critical issues.

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This chapter presents a novel methodology for the objective ascertainment of psychic and existential damage under civil-tort law, already illustrated by the "IALM Medico-Legal Guidelines" (IALM Working Group on Personal Injury and Damage) [1]. This chapter represents a slightly modified version of an article published in the International Journal of Legal Medicine.

30.1 Introduction

Personal injury is a legal term for a physical or psychic injury suffered by the plaintiff under civil and/or tort law. Damages related to the injury can be pecuniary or non-pecuniary in nature. With reference to non-pecuniary damages, the evidence itself of physical and/or psychic injury is not sufficient for damage compensation, as it is essential to provide scientific proof of the causal value/link between the harmful event and the "injury," as well as between the latter and the temporary/permanent "impairment" and/or "disability." Following the definitions of the World Health Organization (WHO) and the International Classification of Impairments, Disabilities, and

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Handicaps (ICF), the medico-legal expert must objectively ascertain "any loss or abnormality of psychic or anatomical structure or function" (i.e., impairment) and "any restriction or lack (resulting from an impairment) of ability to perform an activity in the manner or within the range considered normal for a human being" (i.e., disability).

Impairments and disabilities pertaining to the somatosensory or psychic sphere which imply coenesthesic alterations and substantial loss of personal fulfillment and/or reduction of the quality of life pose significant difficulties in relation to the achievement of Scientific "Evidence."

In particular, the "immateriality" and the subjective connotation of the "personal sphere" are, in themselves, *critical issues*. The clinical data obtained from the neuropsychological ascertainment find their essential prerequisite in the active participation of the Examinee who, in legally relevant contexts (criminal law, civil law, insurance), may be "affected" by personal interests.

In the absence of a defined Systematic Methodology, the ascertainment of "intangible" pain and suffering, loss of amenity, and/or psycho-existential damage is often characterized by a lack of diagnostic power in relation to malingering, the identification of which remains assigned to the clinical judgment and subjective experience of the individual Professional, from which derive a high probability of inaccuracy.

This chapter presents further analysis on the subject of personal injury and damage ascertainment, issuing from the "International Guidelines on Medico-Legal Methods of Ascertainment and Criteria of Evaluation of Personal Injury and Damage Under Civil-Tort Law" produced by the "IALM Working Group on Personal Injury and Damage" [1].

By means of the specialist review process of the clinical-instrumental and psychological testing for the objectification of psycho-somatic impairments conducted by the International Clinical and Medico-Legal Experts, a systematic interdisciplinary Ascertainment Methodology was defined with the aim of attaining greater precision, accuracy, and reproducibility in relation to pain and suffering, loss of amenity, and/or psycho-existential damage.

30.2 Methods of Ascertainment

The Ascertainment Methodology, structured in a complex Flow-Chart, is outlined in the following sections, as well as in Figs. 30.1–30.6 and in Table 30.1.

In particular, it consists of four logical Steps, respectively entitled:

- Step 1—Pre-Existing Social—Psycho—Somatic State.
- Step 2—Injuring Event.
- Step 3—Current Social—Psycho—Somatic State.
- Step 4—Detection of Examinee's Level of Cooperation.

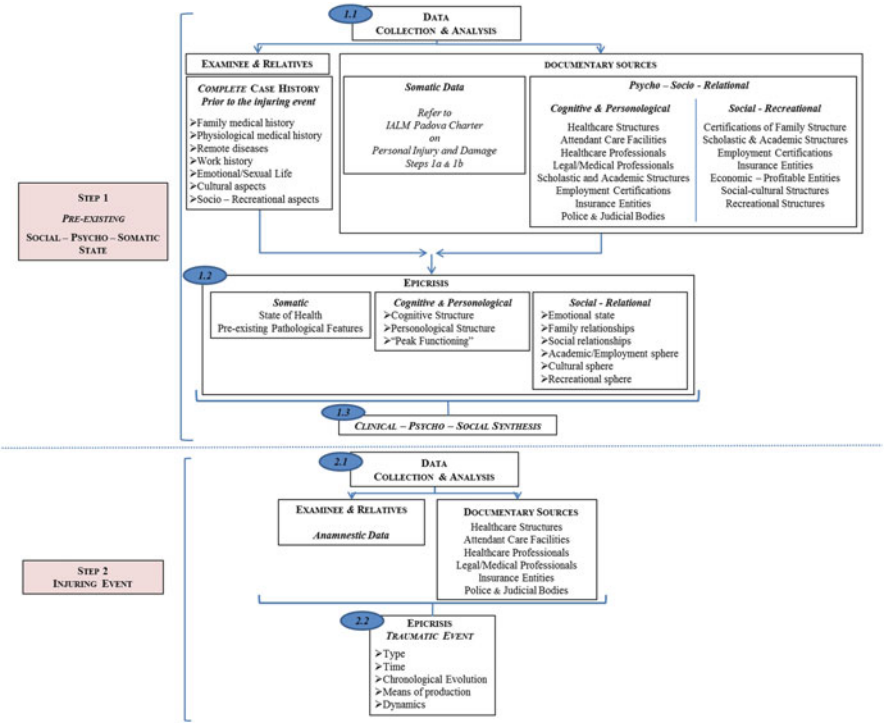

Fig. 30.1 Step 1—Pre-existing social-psycho-somatic state. Step 2—Injuring event

30.2.1 Step 1. Preexisting Social-Psycho-Somatic State

The first Methodological Ascertainment Step, aimed at the complete definition of the "Pre-existing Social-Psycho-Somatic State" prior to the injuring event, comprises the collection and analysis of medical records and documents, the epicrisis, and clinical-psycho-social synthesis, as set out below.

30.2.1.1 Step 1.1: Data Collection and Analysis

The collection and related analysis of data with probative value, derived from specific "documentary sources," aim at the objective demonstration of the Pre-existing Social—Psycho—Somatic State prior to the injuring event (Fig. 30.3).

A. *Case History*

The complete case history aims at the exclusive survey of data regarding the period prior to the injuring event, as described below. Data can be collected directly from the Examinee and/or from close relatives.

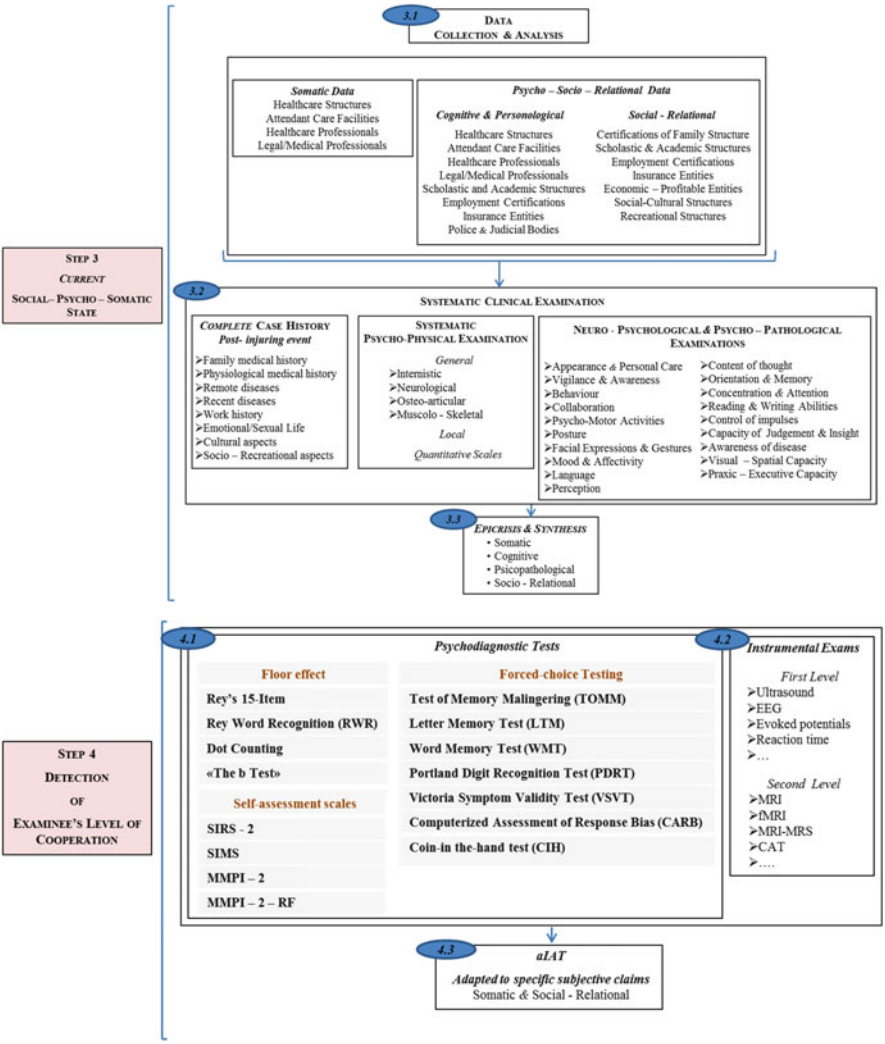

Fig. 30.2 Step 3—Current social-psycho-somatic state. Step 4—Detection of examinee's level of cooperation

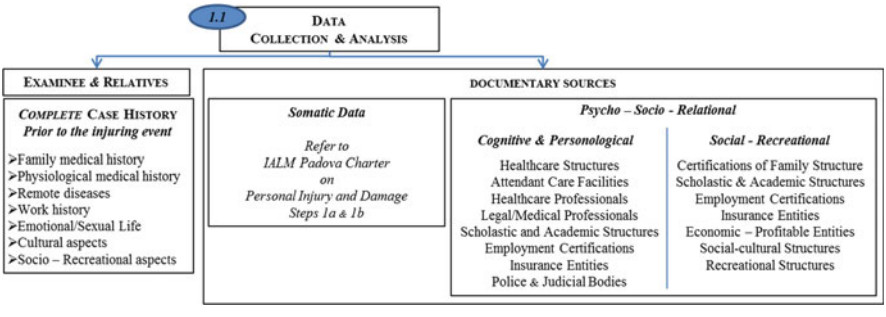

Fig. 30.3 Step 1.1—Data collection and analysis

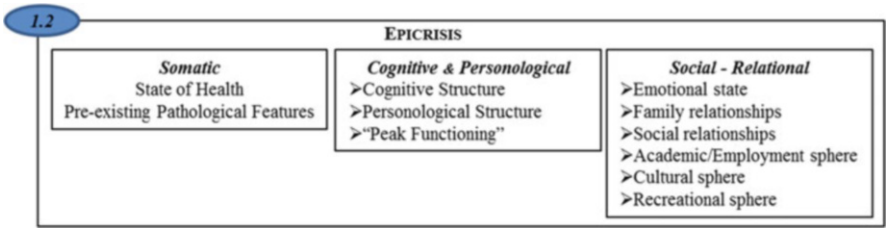

Fig. 30.4 Step 1.2—Epicrisis

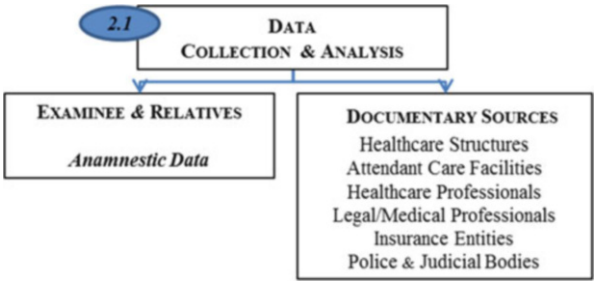

Fig. 30.5 Step 2.1—Data collection and analysis

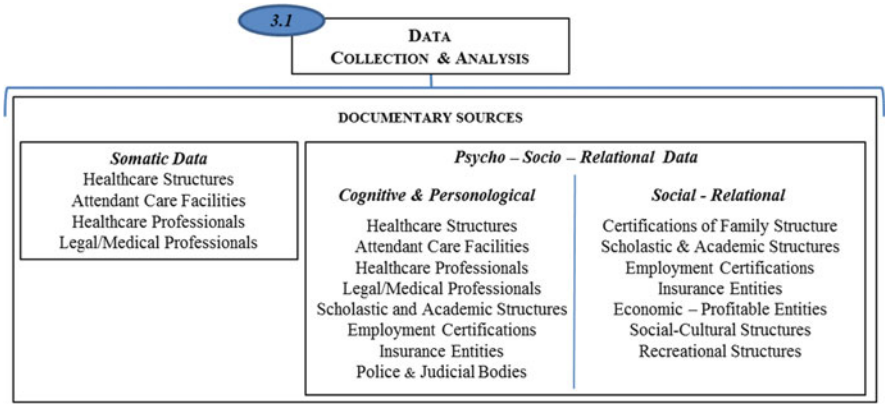

Fig. 30.6 Step 3.1—Data collection and analysis

The anamnesis should be conducted as described by the *Padova Charter on personal injury and damage* [1], but with a particular focus and in-depth analysis on the work-related, emotional-sexual, cultural, and social-recreational aspects of life.

Recent diseases are not of interest, being relevant to the identification of the "Current Social-Psycho-Somatic State," of subsequent ascertainment.

Table 30.1 Step 4.1—Psychodiagnostic tests

	Test	Sensibility	Specificity	Malingering Cut-offs
Floor effect	Rey 15-item Test	70 %	92 %	≤9/15
	Rey Word Recognition (RWR)	70 %	92 %	≤6/15
	Dot counting Test	100 %	>90 %	180 e 130 s
	The b Test	68 %	99 %	See interpretation manual
Self-report Inventory	Structured Interview of Reported Symptoms -2 (SIRS-2)	67 %	98 %	Specific for each scale
	Structured Inventory of Malingered Symptomatology (SIMS)	52 %	100 %	>14
	Minnesota Multiphasic Personality Inventory—2 (MMPI-2)	>80 %	>90 %	Specific for each scale
	Minnesota Multiphasic Personality Inventory Restructured Form (MMPI-RF)	92	97	Specific for each scale
Forced choice	Test Of Memory Malingering (TOMM)	91 %	95 %	≤16/50
	Letter Memory Test (LMT)	73 %	100 %	≤93 %
	Word Memory Test (WMT)	64 %	100 %	≤75
	Portland Digit Recognition Test (PDRT)	70 %	100 %	≤44
	Victoria Symptom Validity Test (VSVT)	88 %	100 %	≤50 %
	Computerized Assessment of Responce Bias (CARB)	56 %	83 %	≤50 %
	Coin In the Hand Test (CIH)	93 %	88 %	<8,50

B. *Circumstantial, Clinico-Documental-Instrumental Data*

B.1—Somatic Data

All data identifying preexisting somatic integrity (with determination of any preexisting pathological features) can be deduced from the documents described by the *Padova Charter on personal injury and damage—Steps 1a and 1b* [1].

Particular attention should be paid to any previous ascertainments and/or evaluations carried out by legal and/or medical professionals.

B.2—Cognitive-Personological Data

The data identifying the preexisting cognitive functions (perception, expression, attention, executive functions, memory, comprehension, and orientation) and personological structures (personality traits/disturbances; psychiatric disturbances/pathologies) can be deduced from the sources listed below.

- *Public/Private Healthcare Structures*

The data emerging from the healthcare structures in which the examinee was admitted in the period prior to the injuring event include medical records, nursing reports, reports of the clinical specialist, clinical-instrumental analysis reports, diagnostic-prognostic-therapeutic prescriptions, etc.

- *Public/Private Attendant Care Facilities*

  Data emerging from attendant care facilities in which the examinee was admitted in the period prior to the injuring event adhere to the prescribed and completed assistance and/or rehabilitative programs, etc.
- *Healthcare Professionals and Paramedics*

  This concerns the collection of diagnostic-prognostic-therapeutic certifications and/or clinical reports prepared by healthcare professionals and paramedics in the period prior to the injuring event.
- *Legal and Medical Professionals*

  This concerns the collection of certifications regarding any previous ascertainments and/or evaluations carried out by legal and/or medical professionals.
- *Scholastic and Academic Structures*

  This concerns the collection of data pertaining to scholastic and/or academic performance, educational qualifications acquired, level achieved, etc.
- *Employment Certifications*

  This concerns the collection of data pertaining to aptitude for work, chronology of professional duties undertaken, level of responsibility conferred, level of professional development achieved, stress levels tolerated, etc.
- *Insurance Entities*

  Insurance data includes settled claims (civil responsibility, motor third-party liability, private insurance), contracts of insurance (risk categories, pathologies, and declared activities), social security, etc.
- *Police and Judicial Bodies*

  Judicial data include highway code disputes, illicit use of drugs of abuse, and previous investigations/proceedings of a civil and/or criminal nature.

B.3—Social-Relational

Data relating to preexisting social and relational structures can be deduced from the sources set out below.

- *Certifications of Family Structure*

  This concerns certifications pertaining to the composition of the family unit in the period prior to the injuring event.
- *Scholastic and Academic Structures*

  This concerns the collection of data pertaining to any disciplinary/behavioral reports, programs of psychological support undertaken, patterns of identified behavior, scholastic and/or academic progression attained, etc.
- *Employment Certifications*

  This concerns the collection of data pertaining to work aptitude, responsibility assumed, relationship with colleagues, stress management, etc.
- *Insurance Entities*

  This concerns the collection of data deriving from previous incidents and/or insurance contracts and pertaining to regular employment and/or social activities.
- *Economic-Profitable Entities*

  This concerns data pertaining to the financial situation in the period prior to the injuring event.

- *Social-Cultural and Recreational Structures*
  This concerns the collection of data pertaining to social-cultural and ludic-recreational activities performed in the period prior to the injuring event, of a continual, habitual, episodic, or occasional character.

30.2.1.2 Step 1.2: Epicrisis

Having completed the collection and related analysis of the above data, one proceeds to the *epicrisis* (Fig. 30.4), aimed at defining the preexisting somatic, cognitive-personological, and social-relational state, as explained below.

Epicrisis

A. *Somatic*
One proceeds to the identification and description of the "state of health" prior to the facts and/or the "preexisting pathological framework."
B. *Cognitive and Personological*

- *Cognitive Structure*
  Concerns the nosographic classification inclusive of qualitative/quantitative descriptions
- *Personological Structure.*
  Concerns the nosographic classification inclusive of qualitative/quantitative descriptions
- *Peak Functioning*
  The differentiated cognitive functions are subject to age-related qualitative/quantitative physiological decrease. It is therefore essential to take account of the average values of age-related performance.

C. *Social-Relational*
This involves taking into consideration emotional state, family and social relationships, and the academic/employment, cultural, and recreational spheres.

30.2.1.3 Step 1.3: Clinical-Psychosocial Synthesis

The clinical-psychosocial synthesis is the expression of the collected data and the related epicrisis.

30.2.2 Step 2. Injuring Event

The second Methodological Ascertainment Step, aiming at the objectification of the injuring event, includes the collection and analysis of the anamnestic and documental data, the epicrisis, and the detailed description of the characteristics of the event, as set out below.

30.2.2.1 Step 2.1: Data Collection and Analysis

The collection and related analysis of the data of probative value, derived from specific "documentary sources," aim at the objective demonstration of the injuring event (Fig. 30.5).

A. *Anamnestic Data*

Anamnestic data can be collected directly from the examinee and/or close relatives.

B. *Documentary Data*

Documentary data, identifying the nature and characteristics of the event, can be deduced from the sources described below.

- *Public/Private Healthcare Structures*

  Data extrapolated from health structures where the examinee was admitted as a result of the injuring event include anamnesis and objective examinations, records of admittance to emergency ward facilities, medical records, nursing reports, reports of the clinical specialist, clinical-instrumental analysis reports, histopathological findings, diagnostic-prognostic-therapeutic prescriptions, etc.
- *Public/Private Attendant Care Facilities*

  Data emerging from attendant care facilities in which the examinee was admitted as a result of the injuring event include medical records, nursing reports, reports of rehabilitation performance, clinical-care report, assistance and/or rehabilitative programs, etc.
- *Healthcare Professionals and Paramedics*

  This concerns the collection of diagnostic-prognostic-therapeutic certifications and/or clinical reports prepared by healthcare professionals and paramedics.
- *Legal and Medical Professionals*

  This involves the collection of certificates regarding ascertainments and/or assessments carried out by legal and/or medical professionals.
- *Insurance Entities*

  This involves the collection of insurance documentation (civil responsibility, motor third-party liability, private insurance) pertaining to the event, as well as any social security certifications.
- *Police and Judicial Bodies*

  This involves the collection of the circumstantial/testimonial data related to the event, as well as any documents relating to investigations/proceedings of civil and/or criminal nature.

30.2.2.2 Step 2.2: Epicrisis

Having completed the collection and related analysis of the above data, one proceeds to the epicrisis, aimed at defining the characteristics of the event.

Characteristics of the Event
This involves defining the characteristics of the event, such as *type* (nature of the trauma-acute and/or chronic somatic, acute and/or chronic emotional, somatic-emotional), *time, chronological evolution, means of production,* and *dynamics*.

30.2.3 Step 3. Current Social-Psycho-Somatic State

The third Methodological Ascertainment Step, aiming at the ascertainment of the "Current Social-Psycho-Somatic State", includes the collection and analysis of anamnestic and documentary data, systematic clinical examination, as well as the epicrisis and clinical-psychosocial synthesis, as set out below.

This step must be performed after at least 1 year from the injuring event.

30.2.3.1 Step 3.1: Data Collection and Analysis

The collection and related analysis of the data of probative value, derived from specific "documentary sources," aims at the objective demonstration of the current social-psychosomatic state (Fig. 30.6).

A. *Somatic Data*

Data identifying somatic integrity subsequent to the injuring event and in the current period are derived from the sources set out below.

- *Public/Private Healthcare Structures*
  Data derived from the healthcare structures in which the examinee was admitted in the period subsequent to the injuring event include anamnesis and objective examinations, records of admittance to emergency ward facilities, medical records, nursing reports, reports of the clinical specialist, clinical-instrumental analysis reports, histopathological findings, diagnostic-prognostic-therapeutic prescriptions, etc.
- *Public/Private Attendant Care Facilities*
  Data emerging from attendant care facilities in which the examinee was admitted in the period subsequent to the injuring event include medical records, nursing reports, reports of rehabilitation performance, clinical-care report, assistance and/or rehabilitative programs, etc.
- *Healthcare Professionals and Paramedics*
  This concerns the collection of diagnostic-prognostic-therapeutic certifications and or clinical reports prepared by healthcare professionals and paramedics.
- *Legal and Medical Professionals*
  This concerns the collection of certifications and documents relating to the ascertainments and/or evaluations carried out by legal and/or medical professionals.

B. *Cognitive-Personological Data*

The data identifying the cognitive functions (perception, expression, attention, executive functions, memory, comprehension, and orientation) and personological structure (personality traits/disturbances; psychiatric disturbances/pathologies), subsequent to the injuring event and in the current period, can be deduced from the sources listed below.

- *Public/Private Healthcare Structures*
  Data extrapolated from health structures where the examinee was admitted subsequent to the injuring event include medical records, nursing reports, reports of the clinical specialist, clinical-instrumental analysis reports, histopathological findings, diagnostic-prognostic-therapeutic prescriptions, etc.
- *Public/Private Attendant Care Facilities*
  Data derived from attendant care facilities in which the examinee was admitted in the period subsequent to the injuring event include medical records, nursing reports, reports of rehabilitation performance, clinical-care reports, assistance and/or rehabilitative programs, etc.
- *Healthcare Professionals and Paramedics*
  This concerns the collection of diagnostic-prognostic-therapeutic certifications and or clinical reports prepared by healthcare professionals and paramedics.
- *Legal and Medical Professionals*
  This concerns the collection of certifications and documents relating to the ascertainments and/or assessments carried out by legal and/or medical professionals.
- *Scholastic and Academic Structures*
  This concerns the collection of data pertaining to scholastic and/or academic status in the period subsequent to the injuring event.
- *Employment Certifications*
  This concerns the collection of data pertaining to the *quoad laborem* prognosis subsequent to the injuring event, type of professional commitments undertaken, responsibility assumed, prospects for professional advancement, etc.
- *Insurance Entities*
  This involves the collection of any data pertaining to insurance contract reviews (classes of risk, pathologies, and declared activities), as well as any social insurance documentation.
- *Police and Judicial Bodies*
  Judicial data include highway code disputes, illicit use of drugs of abuse, and previous investigations/proceedings of a civil and/or criminal nature.

C. *Social-Relational Data*

Data identifying social and relational structures subsequent to the injuring event or in the current period are derived from the following sources.

- *Certifications of Family Structure*
  This concerns certifications relating to the composition of the family unit in the period subsequent to the injuring event.
- *Scholastic and Academic Structures*
  This concerns the collection of data pertaining to any disciplinary/behavioral reports, programs of psychological support undertaken, patterns of identified behavior, scholastic and/or academic progression attained, etc.
- *Employment Certifications*
  This concerns the collection of data pertaining to work aptitude, responsibility assumed, relationship with colleagues, stress management, etc.
- *Insurance Entities*
  This involves the collection of any data pertaining to insurance contract reviews (classes of risk, pathologies, and declared activities), as well as any social insurance documentation.
- *Economic-Profitable Entities*
  This involves the collection of data pertaining to the financial situation in the period subsequent to the injuring event.
- *Social-Cultural and Recreational Structure*
  This concerns the collection of data pertaining to social-cultural and ludic-recreational activities performed in the period subsequent to the injuring event, of a continual, habitual, episodic, or occasional character.

30.2.3.2 Step 3.2: Systematic Clinical Examination

The systematic clinical examination (Fig. 30.7) must be carried out according to the indications of the "International Guidelines on Medico-Legal Methods of Ascertainment and Criteria of Evaluation of Personal Injury and Damage Under Civil-Tort Law" [1].

In the medical anamnesis, one must particularly focus on the work-related, emotional-sexual, cultural, and social-recreational aspects of life.

Crucial value must be attributed to the **neuropsychological and psychopathological examinations**, which aim at the survey of clinical objective data and are an

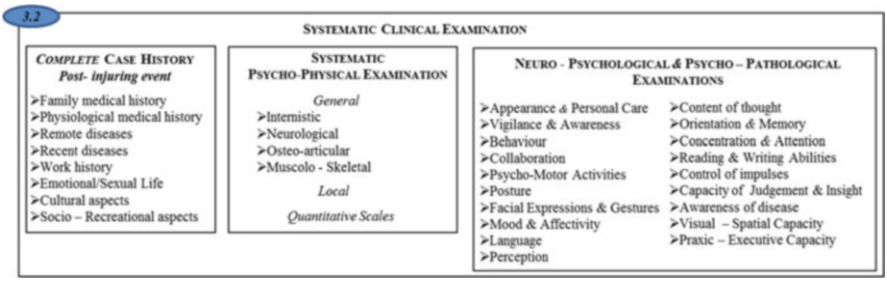

Fig. 30.7 Step 3.2—Systematic clinical examination

essential tool for the clinical diagnosis, the quantitative/qualitative definition of cognitive skills, as well as the differential diagnosis of any neurological and/or psychopathological pathologies.

The examinations must be conducted in accordance with the neuropsychological and psychopathological methodologies and protocols indicated by international literature. For these specific ascertainment purposes, the use of rating scales for clinical diagnosis should be avoided, as they are not appropriate for the attainment of objectivity in the forensic field.

Objective-Clinical Data

The objective data of interest, to be obtained by means of accurate clinical examination, are as follows.

- *Appearance and Personal Care*

  Data concerning appearance and self-care include habitus, clothing, personal hygiene, and esthetic care.
- *Vigilance and Awareness*

  Data pertaining to vigilance and awareness include degree of vigilance, level of consciousness, and any pathological alterations (e.g., drowsiness, somnolence).
- *Behavior*

  Data pertaining to behavior include gaze, level of confidence, tendency to manipulate, eccentricity, and others.
- *Collaboration*

  Data concerning collaboration with the examiner include helpfulness toward the examiner and exhibition of autonomy vs. need of the assistance of third parties.
- *Psychomotor Activities*

  Data pertaining to psychomotor activities include composure, agitation, gestures, and others.
- *Posture*

  Data pertaining to posture include physical vicinity, tension, and relaxation.
- *Facial Expressions and Gestures*

  Data pertaining to facial expressions and gestures include expressiveness of the face, nods of the head, body language, and others.
- *Mood and Affectivity*

  Data pertaining to mood and affectivity include euthymia, sadness, depression, anxiety, restlessness, euphoria, appropriateness of affectivity, and others.
- *Language*

  Data pertaining to language include fluency of speech, expressiveness, richness of vocabulary, syntactical-semantic correctness, stuttering, echolalia, schizophasia, sidetracking, and others.
- *Perception*

  Data concerning perception include any pathological alterations (e.g., hallucinations, delusions, others). Describe the nature, intensity, and frequency.
- *Content of thought*

Data on the content of thought include the description of the nature, intensity, and frequency of any pathological alterations (e.g., delusional contents, insertions, tangentiality, sidetracking).

- *Orientation and Memory*

Data pertaining to space-time-person orientation and memory include the description of the nature, intensity, and frequency of any pathological alterations (e.g., mnestic deterioration, confabulation).

- *Concentration and Attention*

Data pertaining to concentration and attention include the ability to focus attention on specific stimuli and shift attention from one stimulus to another.

- *Reading and Writing Abilities*

Data pertaining to reading and writing abilities include the definition of the cultural level and any pathological alterations (e.g., dyslexia, dysgraphia).

- *Control of Impulses*

Data pertaining to the control of impulses include the description of the ability to retain aggressive impulses and reaction to frustrating/stressful situations.

- *Capacity of Judgment and Insight*

. Data pertaining to the capacity of judgment and insight include concern, indifference, etc.

- *Awareness of Disease*

This notes the level of awareness of the disease.

- *Visual-Spatial Capacity*

One proceeds to qualitative/quantitative descriptions of visual-spatial capacity.

- *Praxic-Executive Capacity*

One proceeds to qualitative/quantitative descriptions of praxic-executive capacity.

30.2.3.3 Step 3.3: Epicrisis and Synthesis

One proceeds to the clinical-documental epicrisis and the related somatic, cognitive, psychopathological, and social-relational synthesis.

30.2.4 Step 4. Detection of Examinee's Level of Cooperation

The present methodological Step aims at the detection of the examinee's level of cooperation, in order to verify the validity of data generated by the previous steps, identifying the suspicion of malingering (Fig. 30.8).

Nosographic Framework

Malingering is defined by DSM 5 (V65.2, "Additional conditions that may be a focus of clinical attention") as the "intentional production of false or grossly

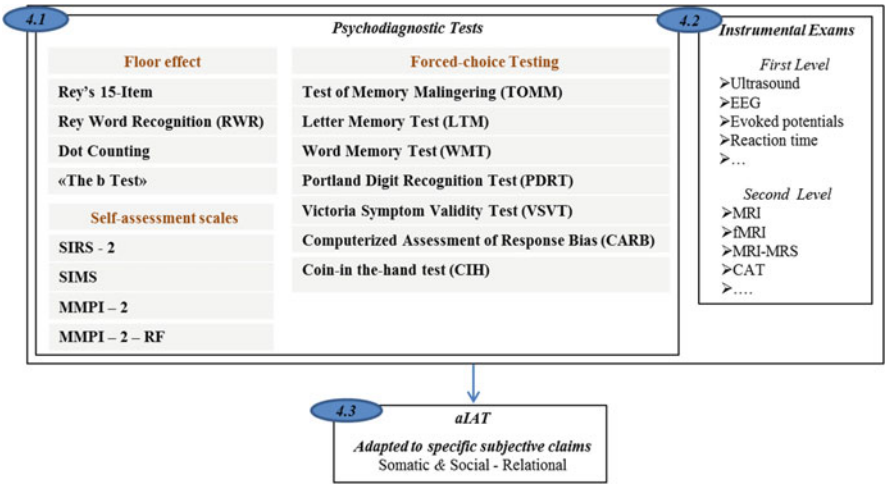

Fig. 30.8 Step 4—Detection of Examinee's level of cooperation

exaggerated physical or psychological symptoms, motivated by external incentives such as avoiding military duty, avoiding work, obtaining financial compensation, evading criminal prosecution, or obtaining drugs" (Chap. 29).

As described by DSM 5, malingering is not a "diagnosable disorder," and the ultimate decision regarding the truthfulness of the examinee is a question for the court to decide [2, 3].

In terms of the nosographic framework, malingering is distinguished as follows.

- "General": production and/or amplification of typical symptoms of differentiated psychopathological areas (e.g., depression, anxiety, psychosis, cognitive deficit).
- "Specific": description of precise pathological data (e.g., post-traumatic stress disorder—PTSD postwar mission).

So-called coaching is also widely described within the category of the specialist neuropsychological literature, in reference to the preparation of the examinee by an expert (e.g., lawyer, psychologist) for the psychodiagnostic evaluation of the official technical consultant, in order to effectively change the results of the examination, making the identification of simulation on a solely clinical basis more difficult.

Contexts/Areas with a Higher Frequency of Malingering

Higher frequency rates of malingering are registered in institutionally relevant contexts/areas, i.e., *criminal law* (ability to understand and/or will, compatibility with the prison regime, social dangerousness), *civil law* (personal injury, ability to provide for own interests, parenting skills), *social insurance* (working capacity, disability, accompaniment), and *administrative* (fitness to drive, fitness to carry firearms).

Differential Diagnosis

The main psychiatric pathologies which are characterized by "behaviors of simulation/dissimulation" are conversion disorder and/or other forms of somatoform disorder (algic disorders, somatization, undifferentiated somatoform),[1] dissociative disorder,[2] factitious disorder,[3] Münchausen syndrome,[4] Münchausen syndrome by proxy,[5] and Ganser syndrome.[6]

Methodology of Evaluation

The proposed methodology for the detection of lack of cooperation, incongruent and/or aberrant responses on the part of the examinee, is outlined as follows.

30.2.4.1 Step 4.1: Psychodiagnostic Tests

The first phase is substantiated by the administration of a panel of neuropsychological tests, defined as a result of the examination of the specialized national and international literature [4–16] and treaties [17–20], with the related selection of categories of tests (and individual tests for each category).

The synopsis of the average data of specificity (correct identification of "non-malingerers") and sensitivity (correct identification of "malingerers") of each test and its related interpretative cutoff are shown in Table 30.1.

The synthetic description of each proposed test is reported as follows.

Floor Effect

This involves the evaluation of the examinee's ability to properly perform extremely easy tasks. Malingering is identified when the result is less than that obtained from individuals actually suffering from cognitive disorders.

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[1] Simulation differs from conversion disorder and other somatoform disorders for the *intentional* production of symptoms.

[2] It is possible that a patient suffering from dissociative disorder or dissociative state attributable to another neuropsychiatric disease "produces," on clinical observation, psychological symptoms (e.g., disorientation, memory loss, lack of reasoning and understanding, disorders of ideation, pseudodementia) that are not based on an actual decrease in cognitive and/or another objectivizable organic dysfunction.

[3] Simulation differs from factitious disorder in that the motivation as to the production of the symptom is constituted by an external stimulus, whereas in factitious disorder external incentives are absent.

[4] Intentional production of symptoms and physical complaints aimed at achieving attention and specialized healthcare.

[5] Similar to the preceding, it is distinguished by the characteristic that the perpetrator induces disorders in another person.

[6] Psychogenic pseudodementia or hysterical twilight state, typically observed in prisons. It was initially recognized in prisoners awaiting execution, with marked decrease of higher cognitive functions (absurd and evasive language, serious amnesia, dissolution of each semantic competence, inability to perform logical-deductive reasoning, also basic), as against apparently preserved consciousness, understanding, and orientation.

– *Rey's 15-Item Test*

This is a test that identifies a tendency to simulate or to aggravate memory deficits. A grid of 15 visual elements, "apparently" difficult to memorize, is presented for 10 s (letters, numbers, geometric shapes) and is then withdrawn for a further 10 s. The examinee is then asked to reproduce the memorized stimuli on a sheet of paper. The rating is calculated based on the total number of items recalled.[7] The majority of patients with severe head injury or mental retardation obtain results in the standard range [4, 5, 18–20].

– *Rey Word Recognition*

This is a test in which a list of 15 words is read at a frequency of 1/s. After a break of 5 s, a list of 15 "targets" (words read previously) and 15 "distractors" (new words) is proposed, for each of which the examinee must respond affirmatively or negatively (remember/do not remember).[8] The score is calculated based on the number of words recalled correctly [4, 18–20].

– *Dot Counting*

This is a test that identifies a tendency to simulate or to aggravate learning difficulties or specific visual-perceptual deficits.

It consists of two parts:

1. "Ungrouped dots," points in a random configuration
2. "Grouped dots," points in a specific configuration

The second part is simpler than the first. The examinee is required to count the number of points present on some sheets of paper and to provide the response as quickly as possible. The rating is calculated based on the time taken to respond to every item. For both tests the response times of the collaborating subjects increase gradually with the increase of the number of points.[9] Two or more deviations from the average of the response times indicate malingering [4, 6, 18–20].

– *The b Test*

This is a test that involves the reading of letters of the alphabet. It is indicated to reduce the possibility of false-positive results, also in patients with brain injuries [7, 8, 18–20].

Self-assessment Scales

Questionnaires consisting of a variable number of items that detect the existence, frequency, and intensity of psychopathological disorders

– *Structured Interview of Reported Symptoms-2 (SIRS-2)*

[7] Cutoff validated by experimental studies amounting to 9/15, below which malingering is identified

[8] Cutoff validated by experimental studies amounting to 6/15, below which malingering is identified

[9] Cutoff validated by experimental studies amounting to 180 s for counting the ungrouped dots and 130 s for the grouped dots

This is a reference standard for the assessment of simulated psychiatric disorders. Organized in the form of a structured interview substantiated by 172 questions, it is designed to detect 13 response profiles commonly associated with malingering [9, 18, 20].

The interview is structured as follows:

- *Detailed Information I* (items from 1 to 16)
- *General Information I* (items from 17 to 70)
- *Repeated Information I* (items from 71 to 86)
- *Detailed Information II* (items from 87 to 102)
- *General Information II* (items from 103 to 156)
- *Repeated Information II* (items from 157 to 172)

The results are summarized through 13 evaluative scales.

- "Rare Symptoms": rare symptoms in psychiatric patients
- "Symptom Combinations": combinations of symptoms of dissimilar nature and etiology
- "Improbable or Absurd Symptoms": improbable and/or absurd symptoms, also for psychiatric subjects
- "Blatant Symptoms": obvious symptoms, typical of major psychiatric disorders, that malingerers tend to attribute to themselves to a quantitatively superior extent
- "Subtle Symptoms": typical psychiatric symptoms that could be omitted by malingerers
- "Severity of Symptoms": numerousness of symptoms classified as "severe" (tend to be excessive in malingerers)
- "Selectivity of Symptoms": degree of selectivity of symptoms (reduced in malingerers)
- "Reported vs Observed Symptoms": items for which the examiner has the immediate possibility of verifying on the basis of direct observation

Cutoff scores are provided for each of the eight "primary" scales reported above, which permit the classification of the description according to the categories "honest," "dubious," "probable fiction," and "certain fiction."

The test is also able to calculate the scores of the following five additional scales.

- "Direct Appraisal of Honesty": items in which the examinee is explicitly asked to indicate their "honesty" in describing themselves
- "Defensive Symptoms": daily symptoms typical of the experience of the great majority of people (worries, issues, negative non-pathological situations)
- "Symptom Onset": items that identify aspects of sudden and/or atypical onset of mental disorders, which, as such, could signal doubts as to the veracity of the reports
- "Overly Specified Symptoms": items in which the examinee identifies symptoms with an excessive degree of precision (e.g., duration and/or frequency of appearance)

- "Inconsistency of Symptoms": 32 repeated items, which can identify inattention and/or inaccuracy of response

– *Structured Inventory of Malingered Symptomatology (SIMS)*

Consisting 75 questions (true/false), the subject must respond affirmatively or negatively and identify any worsening "distortions" of the answers [9, 10, 18, 20]. The test focuses on the following domains: low intelligence (LI), affective disorders (AF), neurological impairment (N), psychosis (P), and amnestic disorders (AM).[10]

– *Minnesota Multiphasic Personality Inventory-2 (MMPI-2)*

This consists of 567 dichotomous items of true/false response. It provides guidance on personality and on the correspondence of the profile of responses with different psychiatric nosographic features. It consists of 10 "basic clinical scales" (and related subscales), 15 "scales of content," as well as multiple "supplementary or experimental clinical scales" and other secondary indexes [11, 18, 20].

The limit of the test is substantiated by the inability to detect malingering limited to a symptom and/or to a specific feature.

– *Minnesota Multiphasic Personality Inventory-2-RF (MMPI-2-RF)*

This is the latest version of the aforementioned MMPI-2, articulated in 51 scales (divided into "substantial" and "valid") aimed at identifying salient and clinically relevant personological variables [12, 20].

Forced-Choice Testing

Questionnaires involve the unavoidability for the examinee of choosing between alternative answers to each question. Malingerers provide a number of correct answers significantly lower than the level of correct answers attributable to chance.

– *Test of Memory Malingering (TOMM)*

This is one of the neuropsychological reference standards for detecting the simulation of mnesic disorders. It specifies a "learning," "recognition," and "deferred retention" test. In the learning test 50 figures are shown, each for 3 s. In the recognition test, 50 cards are shown, on each of which is drawn a figure seen previously and a new figure of which the examinee must indicate the figure seen previously. The deferred retention test (not mandatory) is only applied if the score is less than 45 (the maximum score is 50).

Considering a total of 50 items, the statistical-epidemiological data identify a cutoff of 16/50 for the diagnosis of malingering [13, 18–20].

– *Letter Memory Test (LTM)*

This is a test in which some letters are projected onto a monitor for 3 s. The examinee is asked to memorize and subsequently transcribe the largest possible number of letters [4, 14, 18–20].[11]

[10] Cutoff > 14 for the identification of malingering

[11] Cutoff <93 % for the identification of malingering

– *Word Memory Test (WMT)*

This is a computerized test based on the recognition of semantically related word couplings (20-item word list). Words appear in pairs: one word is presented, followed by the next, 1 s later. The pair disappears and another set is presented 2 s later. The list is presented twice, and then the examinee is asked to recall as many word pairs as possible [17–20].[12]

– *Portland Digit Recognition Test (PDRT)*

This consists of a series of 72 tests. In each of them, five digits in sequence are reported verbally. Thereafter, the examinee is invited to perform an "interfering" task (e.g., count from 10 to 1). A series of numbers is then presented visually, out of which the examinee must recognize those reported verbally at the beginning of the test [4, 15, 18, 20].[13]

– *Victoria Symptom Validity Test (VSVT)*

This is a computerized test consisting of 48 items presented in 3 blocks of 16 each. It involves presenting a sequence of stimuli to be memorized (visual, verbal, numerical, acoustic, etc.) and subsequently recognized [4, 18, 20].

The type and number of items answered correctly and the related latency times are measured, in order to ascertain any exaggerations or simulations of cognitive deficits (perfect performance = 100 %; minimum performance = 50 %). The reliability of the answer is always calculable statistically.[14]

– *Computerized Assessment of Response Bias (CARB)*

This is a computerized test consisting of 75 trials. A string of five digits is presented to be memorized. Following the memorization phase, the examinee must identify one of the alternatives as correct (forced choice) [18, 20].[15]

– *Coin-in-the-hand test (CIH)*

This is a test in which a coin is placed in one hand for 2 s. Following an "interfering" task (e.g., counting with eyes closed from 10 to 0), the examinee is asked to indicate the hand in which the coin was placed. There are ten tests with the money equally distributed in the two hands [16, 19].[16]

30.2.4.2 Step 4.2: Instrumental Exams

The verification of the "veracity" of the findings derived from the systematic clinical objective examination is also performed through the use of targeted instru-

[12] Cutoff ≤75 for the identification of malingering

[13] Cutoff ≤44 for the identification of malingering

[14] Cutoff <50 % for the identification of malingering

[15] Cutoff ≤50 % for the identification of malingering

[16] Cutoff < 8.50 for the identification of malingering

mental tests. They are divided into two macro-categories, namely, first and second-level examinations, as explained below.

These tests contribute to increase the probative value of the clinical objective findings.

"First-Level" Exams
This involves noninvasive and low-cost instrumental exams, such as echography, electroencephalography, evoked potentials, reaction times, etc.

"Second-Level" Exams
This involves invasive and/or high-cost instrumental exams, such as CAT, MRI, functional MRI, magnetic resonance spectroscopy (MRS), electromyography, etc.

30.2.4.3 Step 4.3: Autobiographical Implicit Association Test

The Autobiographical Implicit Association Test (aIAT) is based on the innovative modification of the method proposed by Greenwald et al. [21] that, on the basis of the survey of latency of response to predefined questions, indirectly establishes the association between concepts. The examinee is exposed to a random order of "items" relating to four concepts, which he/she is required to classify according to category (two categories corresponding to as many motor responses). In the event that two concepts are associated with each other at the cognitive level, a response time faster than that employed for responses relating to concepts that are not associated with each other (and therefore requiring dissimilar motor responses) will be detected. When two concepts require the same response, this is defined as the "congruent condition"; when, by contrast, two concepts require differing answers, this is defined as the "incongruent condition." The difference observed in the reaction time (or between the "incongruent condition" (slow) and the "congruent condition" (fast)) is defined as the "IAT effect."

Sartori et al. [22, 23] proposed a variant of the method described above, referred to as "autobiographical IAT," aimed at ascertaining "punctual" autobiographical memories (episodic memory). In particular, the method allows the examiner to distinguish which of the two alternative versions relating to the same "thematic" (or object of investigation) is true. This is accomplished by requiring the examinee to complete two critical blocks of categorization trials, each of which pairs a different potentially autobiographical event with true events. Because pairing of a truly autobiographical event with true events should facilitate responses, the specific pattern of response times (RTs) in the two blocks indicates which autobiographical event is true and which is false [24–26].

The application of the aIAT method is used to identify, with high probability (91 % accuracy), the veracity of punctual subjective references (somatic and/or social-relational) that are significant in the evaluation of subjective aspects of damage (e.g., disabling pain to a specific area of the body, causing significant reduction of the quality of life).

30.3 Conclusions

As outlined by the *Padova Charter on Personal Injury and Damage Under Civil-Tort Law* [1], the ascertainment of non-pecuniary losses must be based on meticulous scientific methods that guarantee objectivity, reproducibility, and rigor, aiming at the achievement of "scientific evidence."

In relation to the state of the art, particular difficulties still exist in the process of ascertaining impairments and/or disabilities which pertain to the "personal sphere" of the individual, such as pain and suffering, loss of amenity, and/or psycho-existential damage, which pose critical issues deriving from the high prevalence of malingering in legally relevant contexts (criminal law, civil law, insurance).

This chapter presents a novel interdisciplinary methodology, based on the *integration* of *systematic medical semeiotics*, *clinical neuropsychological ascertainment*, *specific psychological testing*, as well as a *new method for memory detection*, aimed at the attainment of greater objectivity and accuracy in the ascertainment of peculiar aspects of nonpecuniary damage, overcoming the limitations related to malingering.

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