

# EMERGENCY CALL

## DISPATCH AND TIME MANGEMENT

The dispatcher sends the nearest medical ambulance or doctor to the patient. The call taker has to estimate the time of the beginning of the cardiac symptoms



## CALL TAKER INTERVIEW

### Identification of cardiac syndromes

PAIN: chest, stomach, shoulder or arms, intrascapular  
VEGETATIVE SYNDROMS: vomiting, nausea, cold sweat, pallid cute  
DISPNEA, ARITMIAS

## CONSIDER ASPIRIN ORALLY SUBMINISTRATION

## FMC First Medical Contact

The doctor has to estimate the time from the appearance of the first symptoms to the arrival of the medical ambulance, called FMC Time. Apply a 12 canal ECG an assesse the clinical situation.

## NSTEACS

Non ST Elevation  
Acute Coronary Syndrome

## STEACS

ST Elevation Acute Coronary Syndrome  
or Left bundle branck block or pacing  
rhythm with typical clinical symptoms

## FMC TIME INDIPENDENT DIRECT

emergency transport to the coronary  
Unit

hemodynamically instable patient  
cardiogenic shock  
contraindicated fibrinolytic therapy  
patient conscious and with typical  
symptoms  
persitent angina  
clinical signs of heart failure  
potentially lethal arrythmias  
(VT/VF)

## LOCAL HOSPITAL

patient history  
clinical valutation  
ECG  
efficacy of the analgetic therapy  
laboratory monitoring of troponin  
within 6 and 12 hours  
monitoring of the ST segment  
RISK score assessment  
emorrhagic risk stratification  
other exams

<2h  
FMC TIME  
hyperacute period

>2h  
FMC TIME  
acute period

<60'  
TRANSPORT TIME  
to the Coronary  
Unit

>60'  
TRANSPORT TIME  
to the Coronary  
Unit

>120'  
TRANSPORT TIME  
to the Coronary  
Unit

<120'  
TRANSPORT TIME  
to the Coronary  
Unit

PRIMARY  
PCI

FIBRINOLYTIC  
TGERAPY WITHIN 30'

PRIMARY  
PCI

## DRUGS

The call taker recommends to the patient to take **500mg of Aspirin orally** if she/he does not presents some contraindication:

- stomach ulcer
- allergy
- coagulation disease
- liver pathology

### ANTITHROMBIN AND ANTIPLATELET CO THERAPY

With primary PCI:

- Aspirin: oral dose of 500mg or i.v. dose of 500mg if oral ingestion is not possible
- Clopidogrel: oral loading dose of at least 300mg, preferably 600mg
- Heparin: i.v. bolus at a usual starting dose of 100U/kg weight.

With fibrinolytic therapy:

- Aspirin: oral dose of 500mg or i.v. dose of 500mg if oral ingestion is not possible
- Clopidogrel: oral loading dose of 300mg for patients < 75years of age; for patients >75years of age 75mg
- Heparin: i.v. bolus of 60U/kg with a maximum of 4000U followed by an i.v. infusion of 12U/kg with a maximum of 1000U/h for 24-48h
- Enoxiparin: In patients >75 years and creatinine levels 2.5mg/mL or 221mol/L (men) or 2mg/mL or 177mol/L (women): i.v. bolus of 30mg followed 15 min later by s.c. dose of 1mg/kg every 12h until hospital discharge for a maximum of 8 days.
- The first two s.c. doses should not exceed 100mg.

In patients >75 years: no i.v. bolus; start with first s.c. dose of 0.75mg/kg with a maximum of 75mg for the first two s.c. doses.

In patients with creatinine clearance of <30mL/min, regardless of age, the s.c. doses are repeated every 24h.

Incoscient patient: no antithrombin and antiplatled co therapy

### TENECTEPLASE (TNK-tPA)

Single i.v. bolus 30mg if <60kg  
35mg if 60 to <70kg  
40mg if 70 to <80kg  
45mg if 80 to <90kg  
50mg if ≥90kg or

### ALTEPLASE (t-PA)

15mg i.v. bolus  
0.73mg/kg over 30min  
then 0.5mg/kg over 60min i.v.  
Total dosage not to exceed 100mg

### CONTRAINDICATIONS of Fibrinolytic Therapy

#### ABSOLUTE

- haemorrhagic stroke or stroke of unknown origin at any time
- ischaemic stroke in preceeding 6 month
- central nervous system trauma or neoplasm
- recent major trauma/surgery/ head injury (whitin preceeding 3 weeks)
- gastrintestinal bleeding within the last month
- known bleeding disorder
- aortic dissectionnon-compressible punctures (e.g. liver biopsy, lumbar puncture)

#### RELATIVE

- transient ischaemic attack in preceeding 6 months
- oral anticoagulant therapy
- pregnancy or within 1 week post partum
- refractory hypertension (systolic blood pressure >180mmHg and/or diastolic blood pressure >110mmHg)
- advanced liver disease
- infective endocarditis
- active peptic ulcer
- refractory resuscitation

### NOT EMERGENCY SECONDARY TRANSPORTS

In this category are included all patients they has to be in Bozen not earlier than within 12 or 24 hours. They have to be accompagnied by the Medical Doctor of the local Hospital. The transport Ambulance will be arranged by the Emergency Central 118.

Transports within 72 hours:

- elavated troponin
- dinamically ST segment or T wave modification
- Diabetes Mellitus
- Renal failure (GFR<60ml/min/1.73m2)
- Heart failure (EF<40%)
- post infarction angina
- after MI
- after PCI within 6 months
- after aorto coronaric bypass
- moderate or elevated risk clasified by the GRACE risk score

Not indicated or elective Transport:

- not recurrend pain
- no signs of heart failure
- no ECG modification after 6 or 12 hours
- no troponinemia after 6 or 12 hours

### HELICOPTER TRANSPORT

The helicopter lands in the Bozen helicopter Air Base or at the landing area in front of the hospital. The patient has to be accompagnied by the helicopter air rescue team to the Coronary Unit. The helicopter rescue team has to inform the Emergency Call Agency about the procedure before starting if possible.

### INTUBATED OR INCONSCIOUS PATIENT

Intubated or unconscious patients or patients after resuscitation has to be discharged at the FIRST AID departmend. The Emeregncy Call Agency has to inform the FIRST AID department to call the Anestetist as soon as possible.

### RETURN TRANSPORT OF THE PATIENT

After succesfull PCI normally the patients are transported back to the submitting hospital with:

- one of the nurse from the cardiology departmend. They are all accredited in BLS/D for using the AED. The Emergency Call agency organizes the ambulance.
- with the Medical Doctor who accompanied the patient to Bozen in accord with the Emergency Call agency.
- with the Medical Doctor from the Emergency Medical Service 118 in accord with the Emergency Call agency.
- by the Emergency Call agency personell.

This procedure has to be accorded time by time with the responsible medical doctor from the Emergency Call agency.

### Literature

- Frans Van de Werf, Chairperson, Jeroen Bax, Amadeo Betriu, Carina Blomstrom-Lundqvist, Filippo Crea, Volkmar Falk et al., Management of Acute Myocardial Infarction in patients presenting with ST-segment elevation. EHJ 2008;29:2909-2945
- Jean-Pierre Bassand, Christian W. Hamm, Diego Ardissino, Eric Boersma, Andrzej Budaj, Francisco Fernandez-Aviles et al., Management of Acute Coronary Syndromes (ACS) in patients presenting without persistent ST-segment elevation. EHJ 2007;28:1598-1660
- Kim Fox (Chairperson) (UK), Maria Angeles Alonso Garcia (Spain), Diego Ardissino (Italy), Pawel Buszman (Poland), Paolo G. Camici (UK), Filippo Crea (Italy) et al., Management of Stable Angina Pectoris. EHJ 2006;27:1341-1381
- Boden WE et al., Optimal Medical Therapy with or without PCI for Stable Coronary Disease. New England Journal of Medicine 2007;356(15):1503

## DIRECT TRANSPORT TO THE CORONRAY UNIT

# Wide operating guidelines for the treatment of patients with STEACS, NSTEMACS and stable coronary insufficiency